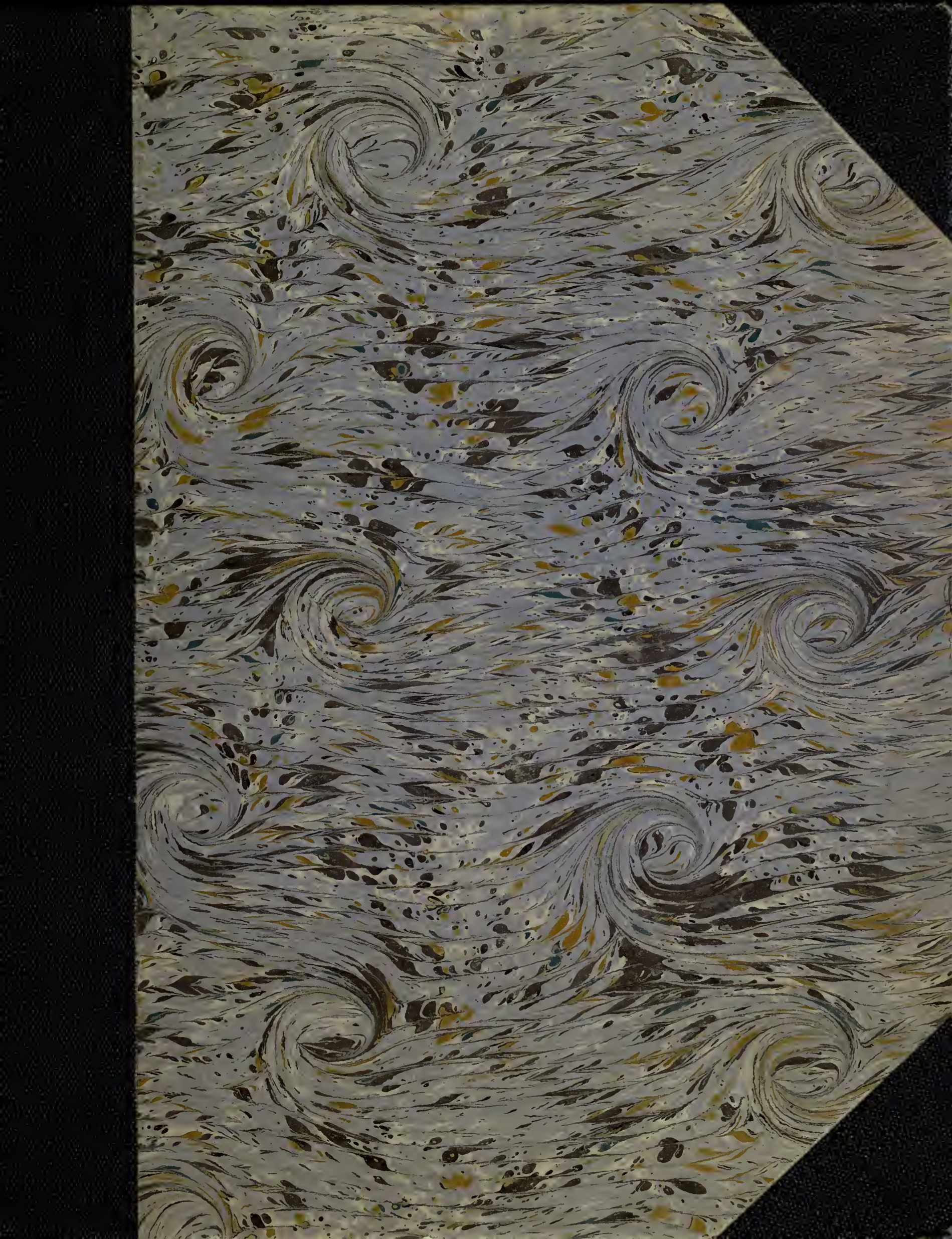






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B I O L O G I A  
CENTRALI-AMERICANA.

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I N S E C T A.

LEPIDOPTERA-HETEROCERA.

VOL. II.

(TEXT.)

BY

HERBERT DRUCE, F.L.S., F.Z.S.

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# BIOLOGIA CENTRALI-AMERICANA.

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## ZOOLOGIA.

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### Class INSECTA.

### Order LEPIDOPTERA.

### Suborder HETEROCERA (*continued*).

### Fam. EUSCHEMIDÆ.

In the New World this family is very poorly represented; from our region we only know of four species, representing two genera.

#### PHÆOCHLÆNA.

*Phæochlæna*, Hübner, Verz. bek. Schmett. p. 176; Walker, Cat. ii. p. 467 (part.); Butler, Trans. Ent. Soc. Lond. 1878, p. 62.

The type of this genus is *P. tendinosa*, Hübn., from Central and South America; three species are now known from our country.

#### 1. *Phæochlæna tendinosa*.

*Phæochlæna tendinosa*, Hübn. Zutr. Samml. exot. Schmett. i. p. 18. no. 45, ff. 89, 90; Verz. bek. Schmett. p. 176; Walk. Cat. ii. p. 467<sup>1</sup>; Butl. Trans. Ent. Soc. Lond. 1878, p. 62.

*Hab.* MEXICO, Jalapa (*coll. Schaus*); HONDURAS<sup>1</sup>; GUATEMALA, Cerro Zunil 4000 to 5000 feet (*Champion*).—COLOMBIA, Bogota; LOWER AMAZONS, Pará.

This common South-American species appears to be very rare in our country. Mr. Champion only sent a single specimen from Guatemala.

#### 2. *Phæochlæna solilucis*. (Tab. XLI. figg. 9, ♂; 10, ♀.)

*Phæochlæna solilucis*, Butl. Trans. Ent. Soc. Lond. 1878, p. 62<sup>1</sup>.

*Hab.* PANAMA, Volcan de Chiriqui (*Arcé, Ribbe*), Bugaba 800 to 1500 feet (*Champion*).—ECUADOR; UPPER AMAZONS<sup>1</sup>; EAST PERU.

A beautiful species, quite unlike any other known to me. The specimens from the State of Panama, from which our figures are taken, agree well with the Amazonian type.

### 3. *Phæochlæna cytheris*, sp. n. (Tab. XLI. fig. 11, ♀.)

*Female*. Primaries deep black, the veins close to the base pale cream-colour, a large oval cream-coloured spot about the middle and a very small similarly-coloured spot close to the apex; secondaries creamy-white, broadly bordered with black: head and thorax black; abdomen brownish-black above, dusky white beneath; antennæ black; palpi and tegulæ bright orange; legs black above, white beneath. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Orizaba (*H. J. Elwes*), Cuesta de Misantla (*M. Trujillo*); COSTA RICA, Caché (*Rogers*).

*P. cytheris* is quite distinct from any described species; it comes nearest *P. cingulina* from Ecuador. The Costa-Rican specimen is figured.

### SIMENA.

*Simena*, Walker, Cat. vii. p. 1728 (1856).

*Cosmetodes*, Guenée, Sp. gén. des Léop. x. p. 225 (1857).

*Simena* and *Cosmetodes* were founded by their authors upon the same species, the types of each being from Mexico. The antennæ of the males are very deeply pectinated, those of the females simple, the two sexes otherwise closely resembling each other.

### 1. *Simena luctifera*. (Tab. XLI. fig. 12, ♂.)

*Simena luctifera*, Walk. Cat. vii. p. 1728 (♂)<sup>1</sup>.

*Cosmetodes joaria*, Guen. Sp. gén. des Léop. x. p. 225 (♂ ♀)<sup>2</sup>.

*Melandia æquinotialis*, Boisd. Léop. Guat. p. 77<sup>3</sup>.

*Hab.* MEXICO<sup>1 2</sup>, Cordova (*Höge, Rümeli*), Jalapa, Coatepec (*coll. Schaus*), Cuesta de Misantla (*M. Trujillo*), Atoyac in Vera Cruz (*H. H. Smith*); GUATEMALA<sup>3</sup>, in the city (*Rodriguez*), Cubilguitz, Senahu, and Panima in Vera Paz (*Champion*); HONDURAS<sup>3</sup> (*Schenck, mus. Staudinger*); COSTA RICA (*Van Patten, mus. D.*), Volcan de Irazu, Caché (*Rogers*); PANAMA, Chiriqui (*Arcé, mus. D.*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

We are indebted to Mons. C. Oberthür for kindly lending us the type of *Melandia æquinotialis*, Boisd.; it does not differ from Walker's species. In Guatemala and Costa Rica this is a common insect, but in the State of Panama it appears to be very rare, Mr. Champion only having met with one example; from Mexico we have only a few specimens. A Mexican example is figured.

### Fam. URANIIDÆ.

The characters of this family are fully described by Prof. Westwood in his "Observations on the Uraniidæ," Trans. Zool. Soc. x. pp. 507-521 (1879).



## URANIDIA.

*Uranidia*, Westwood, Trans. Zool. Soc. x. p. 521 (1879).

Prof. Westwood in his Monograph enumerated eight species of this genus, several of which are of very doubtful value. Some of its members have the remarkable habit of migrating in large numbers.

An important paper on the life-history of the Cuban *U. boisduvali* (*fernandinæ*, MacL.) has been published by Mr. MacLeay, Trans. Zool. Soc. i. pp. 180 *et seq.*

1. *Uranidia fulgens*. (Tab. XLI. fig. 16.)

*Urania fulgens*, Walk. Cat. i. p. 5<sup>1</sup>; Boisd. Lép. Guat. p. 77<sup>2</sup>.

*Cydimon fulgens*, Guen. Sp. gén. des Lép. ix. p. 9<sup>3</sup>; Boisd. Rev. et Mag. Zool. 1874, p. 41<sup>4</sup>.

*Uranidia fulgens*, Westw. Trans. Zool. Soc. x. p. 522<sup>5</sup>.

*Hab.* MEXICO<sup>1 2 5</sup>, Cordova (*Rümeli*), Coatepec (*Brooks*); GUATEMALA<sup>2 4 5</sup>, in the city (*Rodriguez*), Zapote, Cerro Zunil 4000 feet (*Champion*); HONDURAS, San Pedro (*G. Whitely, mus. D.*), Ruatan Island (*Gaumer*); NICARAGUA, Chontales (*Belt*); COSTA RICA (*Van Patten, mus. D.*), Rio Sucio, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Bugaba 800 to 1500 feet, Volcan de Chiriqui 2000 to 4000 feet (*Champion*).—COLOMBIA<sup>2 3 4 5</sup>, Bogota<sup>1</sup>.

Respecting this species Mr. Schaus writes me as follows:—"I found *Urania fulgens* extremely abundant at Jalapa during certain seasons, and for a fortnight or three weeks at a time a perfect succession of specimens would be flying daily from the north to the south, but difficult of capture. In Vera Cruz (the town) I secured a large number at night: between midnight and two A.M. they would be attracted by the lights, and would settle on the white walls of the houses, with their wings spread out, and would thus remain motionless. I consider this fact very remarkable, as I had always thought that *U. fulgens* was only a day-flier; but evidently it must continue its migrations at night also, or does it return at night to the north? In the daytime I have always seen them flying in the one direction."

Boisduval states<sup>2</sup>:—"Cette espèce est tellement abondante dans quelques contrées du Mexique, que l'on pourrait souvent en prendre par centaines. Il paraît qu'à certaines époques de l'année, elle émigre par bandes nombreuses. C'est probablement lorsque les chenilles ont dépouillé tous les arbres d'une localité, que, par un instinct naturel, elles vont chercher ailleurs un berceau pour leur progéniture."

Migrations of large numbers of examples of this species were also observed by Mr. Champion in Chiriqui; and others have been recorded from the Isthmus of Panama (*cf.* 'Nature,' viii. p. 536), the specimens in this case travelling from east to west, in the months of August and September.

Mr. Salvin saw numbers of this *Urania* flying daily during his short visit to the

Isthmus of Panama in May 1873: specimens were first observed by him on approaching the port of Colon, where they were flying close over the water across the Bay in a southerly direction; and subsequently when he was staying at Obispo Station couples of this species were nearly always in sight, from early morning till dusk, flying high over the trees in a south-easterly direction. None were observed to enter the houses at night, though on several occasions examples of very many species came to light.

The large series of examples before me show a considerable amount of variation in the colour and width of the bands crossing the wings. The females are generally larger than the males. The majority of the specimens from Colombia in my own collection are more richly coloured than those from Central America. We figure a Mexican specimen.

## 2. *Uranidia cacica*.

*Cydimon cacica*, Guen. Sp. gén. des Lép. ix. p. 8 (♀)<sup>1</sup>; Boisd. Rev. et Mag. Zool. 1874, p. 36<sup>2</sup>.

*Uranidia cacica*, Westw. Trans. Zool. Soc. x. p. 521<sup>3</sup>.

*Hab.* MEXICO, Acapulco<sup>1 2 3</sup>.

I have not seen the type of this insect, but think it most likely that it will prove to be inseparable from *U. fulgens*. The only recorded specimen is the one described by Guenée.

## MANIDIA.

*Manidia*, Westwood, Trans. Zool. Soc. x. p. 527 (1879).

Of the eight species included by Prof. Westwood in this genus only one is as yet known to inhabit Central America.

## 1. *Manidia lunus*.

*Phalæna lunus*, Linn. Syst. Nat. ed. xii., i. 2, p. 810<sup>1</sup>; Clereh, Icon. t. 52. ff. 3, 4<sup>2</sup>.

*Urania lunus*, Godt. Encycl. Méth. ix. p. 711<sup>3</sup>.

*Nyctalemon lunus*, Walk. Cat. i. p. 8<sup>4</sup>.

*Sematura lunus*, Boisd. Lép. Guat. p. 76<sup>5</sup>.

*Manidia lunus*, Westw. Trans. Zool. Soc. x. p. 527<sup>6</sup>.

*Sematura actæon*, Feld. Reise der Nov., Lep. t. 121. fig. 5<sup>7</sup>.

*Papilio empedocles*, Cram. Pap. Exot. iii. p. 11, t. 199. ff. A, B<sup>8</sup>.

*Urania empedocles*, Godt. Encycl. Méth. ix. p. 711<sup>9</sup>.

*Sematura empedocles*, Guen. Sp. gén. des Lép. ix. p. 19<sup>10</sup>.

*Mania empedoclaria*, Hübn. Verz. bek. Schmett. p. 290<sup>11</sup>.

*Lars Heroica empedoclaria*, Hübn. Samml. exot. Schmett. i. t. 202. ff. 3, 4<sup>12</sup>.

*Hab.* MEXICO, Cuesta de Misantla (*M. Trujillo*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA<sup>5</sup>, slope of the Volcan de Santa Maria (*Richardson*), San Isidro, Pantaleon, Chacoj in Vera Paz (*Champion*); HONDURAS<sup>6</sup> (*Dyson*<sup>4</sup>); NICARAGUA, Chontales (*Belt*); COSTA RICA (*Boucard*, in *mus. D.*; *Van Patten*); PANAMA, Chiriqui (*Arcé*, *mus. D.*),



Volcan de Chiriqui 2000 to 8000 feet (*Champion*).—COLOMBIA, Antioquia; VENEZUELA?<sup>7</sup>; GUIANA <sup>5</sup> <sup>10</sup>, Surinam <sup>3</sup> <sup>8</sup> <sup>9</sup>; UPPER and LOWER AMAZONS; BRAZIL <sup>3</sup> <sup>4</sup> <sup>5</sup> <sup>6</sup>; TRINIDAD.

We have a series of thirty-one examples of this species before us, showing a considerable amount of variation in colour in the males, and to a less degree in the females. Mr. Kirby states (Proc. Roy. Dubl. Society, 1880, p. 340) that *Sematura selene*, Guen., is very closely allied to *M. lunus* (Linn.), especially as regards the females; but may be distinguished by the pale inner submarginal line of the fore wings being more dentated. I have not seen the type of *Sematura selene*; but I think it extremely doubtful if it is specifically distinct from *M. lunus*, as in a long series of the latter the submarginal band on the primaries varies a good deal in shape. I have specimens of *M. lunus* before me from Pará, the locality given by Guenée for his *Sematura selene*.

### CORONIDIA.

*Coronidia*, Westwood, Trans. Zool. Soc. x. p. 528 (1879).

Prof. Westwood divided *Coronidia* into four sections. Of these I believe 2 and 3 to be generically distinct, as the males of the species belonging to them, so far as I am aware, do not possess a silky black patch on the secondaries, nor a tuft of hairs on the inner margin of the primaries beneath, and they also have the antennæ simple.

#### Sect. 1. *Alis posticis cæruleo fasciatis*, Westw.

In this section of the genus Prof. Westwood placed five species, two of them being from Central America.

#### 1. *Coronidia hysudrus*.

*Coronis hysudrus*, Hopff. Neue oder wenig. bek. Schmett. Heft 2, p. 4, t. 3. ff. 4, 5 (1856)<sup>1</sup>.

*Coronidia hysudrus*, Westw. Trans. Zool. Soc. x. p. 532<sup>2</sup>.

*Hab.* MEXICO <sup>1</sup> <sup>2</sup>, Jalapa (*coll. Schaus*); GUATEMALA, Las Mercedes 3000 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Trötsch, Ribbe, in mus. Staudinger*).—BRAZIL <sup>1</sup> <sup>2</sup>.

The male of this species closely resembles *C. erecthea*, Westw.; but it has the blue on the secondaries joined to the oval patch of rough black scales, and the tuft of hairs on the inner margin of the underside of the primaries luteous. We have six specimens before us—one female from Mexico, two males and a female from Guatemala, and a male and female from Chiriqui; the females do not differ from Hopffer's figures, except that they have the antennæ pectinated as in *C. boreada*, Westw.

#### 2. *Coronidia hyphasis*.

*Coronis hyphasis*, Hopff. Neue oder wenig. bek. Schmett., Heft 2, p. 3, t. 3. ff. 2, 3<sup>1</sup>.

*Coronidia hyphasis*, Westw. Trans. Zool. Soc. x. p. 532<sup>2</sup>.

*Hab.* MEXICO <sup>1</sup> <sup>2</sup>; PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).



The male of this species differs from the corresponding sex of all others of the genus known to me in having the tuft of hairs on the underside of the inner margin of the primaries black instead of yellowish. Hopffer's figure represents a female; the male has considerably more blue on the secondaries above.

Sect. 2. *Alis posticis rufo fasciatis*, Westw.

### 3. *Coronidia egina*.

*Coronis egina*, Boisd. in Règn. Anim., ed. Crochard, Atlas, Ins. t. 145. f. 4<sup>1</sup>; Walk. Cat. i. p. 38<sup>2</sup>; Chenu, Encycl. d'Hist. Nat., Pap. i. p. 234, f. 399<sup>3</sup>; Guen. Sp. gén. des Lép. ix. p. 21, Uran. t. 1. f. 3 (♂)<sup>4</sup>.

*Coronidia egina*, Westw. Trans. Zool. Soc. x. p. 533<sup>5</sup>.

*Hab.* MEXICO<sup>4</sup>, Coatepec (*coll. Schaus*); PANAMA, Bugaba (*Champion*).—GUIANA, Essequibo River; BRAZIL<sup>2 3 4 5</sup>.

The specimen captured by Mr. Champion in Chiriqui agrees well with Guenée's figure, which was taken from a Mexican example. It is quite possible that the Central-American examples will prove to be specifically distinct from those from South America, but at present I have not sufficient material to be able to form a decided opinion. If this should ultimately prove to be the case, I propose the name *gueneei* for the Central-American insect.

### 4. *Coronidia canace*. (Tab. XLI. fig. 13, ♀.)

*Coronis canace*, Hopff. Neue oder wenig. bek. Schmett. Heft 2, p. 4, t. 3. f. 6<sup>1</sup>.

*Coronidia canace*, Westw. Trans. Zool. Soc. x. p. 533<sup>2</sup>.

*Hab.* GUATEMALA (*Salvin, mus. D.*), Coban in Vera Paz (*Conradt*); COSTA RICA (*Boucard, mus. D.*); PANAMA, Chiriqui (*Arcé, mus. D.*), Volcan de Chiriqui 2000 to 3000 feet (*Champion; Ribbe, mus. Staudinger*).—ECUADOR; BRAZIL<sup>1 2</sup>.

Varies slightly in the colour of the red band on the secondaries, this band being brighter in some specimens than in others. We figure a female example from Chiriqui.

### 5. *Coronidia nicaraguana*.

*Coronidia nicaraguana*, Westw. Trans. Zool. Soc. x. p. 534, t. 88. fig. 3<sup>1</sup>.

*Hab.* NICARAGUA (*Belt*<sup>1</sup>).

The only specimen known to me of this species is the type in the Oxford Museum.

### 6. *Coronidia æola*.

*Coronidia æola*, Westw. Trans. Zool. Soc. x. p. 535, t. 88. ff. 1, 2<sup>1</sup>.

*Hab.* GUATEMALA<sup>1</sup>.—BRAZIL<sup>1</sup>; ANTILLES<sup>1</sup>.

We include this species in our fauna upon the authority of Prof. Westwood, who states that there is a specimen of it from Guatemala in the Oxford Museum.

Sect. 3. *Alis posticis fulvo fasciatis*, Westw.7. **Coronidia echenais.** (Tab. XLI. fig. 15, ♀.)*Coronis echenais*, Hopff. Neuc oder wenig. bek. Schmett. Heft 2, p. 5, t. 4. f. 1<sup>1</sup>.*Coronidia echenais*, Westw. Trans. Zool. Soc. x. p. 536<sup>2</sup>.*Hab.* MEXICO<sup>1 2</sup>, Jalapa (*Höge*), Coatepec (*coll. Schaus*).

Our Jalapa specimen is almost identical with Hopffer's figure of the male, but it is rather darker in colour.

8. **Coronidia biblina.***Coronidia biblina*, Westw. Trans. Zool. Soc. x. p. 537, t. 88. f. 7<sup>1</sup>.*Hab.* MEXICO, Coatepec (*Brooks*); NICARAGUA<sup>1</sup>.—VENEZUELA<sup>1</sup>.

A worn male specimen from Coatepec is apparently referable to *C. biblina*, but it is considerably smaller than the insect delineated by Prof. Westwood.

9. **Coronidia japet.***Coronis japet*, Boisd. in Règne Anim., ed. Crochard, Ins. t. 145. f. 3<sup>1</sup>; Chenu, Encycl. d'Hist. Nat., Pap. i. p. 234, f. 400<sup>2</sup>; Walk. Cat. i. p. 38<sup>3</sup>.*Coronidia japet*, Westw. Trans. Zool. Soc. x. p. 537, t. 88. f. 6<sup>4</sup>.*Hab.* MEXICO, Coatepec (*coll. Schaus*); GUATEMALA, San Gerónimo (*Champion*); NICARAGUA<sup>4</sup> (*Belt*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA, Antioquia; VENEZUELA<sup>3</sup>; BRAZIL<sup>1 2 3 4</sup>.

In our specimens the pale bands crossing the primaries are darker in colour than in Prof. Westwood's figure. According to Guenée (*Sp. gén. des Léop.* ix. p. 22), *C. japet*, Boisd., is the female of *C. leachii*, Godt.

10. **Coronidia interlineata.** (Tab. XLI. fig. 17, ♀.)*Coronis interlineata*, Walk. Cat. i. p. 38<sup>1</sup>; Butl. Ill. Lep. Het. Brit. Mus. i. p. 59, t. 3. f. 1 (nec Westw.).*Hab.* COSTA RICA (*Van Patten*).

Our Costa-Rican specimen does not differ from Walker's type, the locality for which was unknown<sup>1</sup>. The insect figured by Prof. Westwood as *C. interlineata* (Trans. Zool. Soc. x. t. 88. f. 8) belongs to a different species, and I propose the name *westwoodi* for it: it is said to have come from Bogota or Venezuela.

11. **Coronidia genevana.***Coronidia genevana*, Westw. Trans. Zool. Soc. x. p. 539, t. 88. f. 10<sup>1</sup>.*Hab.* MEXICO (*in mus. Genev.*<sup>1</sup>), Coatepec (*coll. Schaus*); GUATEMALA (*Boucard, in mus. D.*).

### 12. *Coronidia ribbei*, sp. n. (Tab. XLI. fig. 14, ♀.)

*Female*. Primaries dark brown, crossed from the costal to the inner margin by many waved brown lines, a wide pale yellowish-brown band crossing the wing from the costal to the inner margin close to the anal angle, the outer margin broadly bordered with pale brown, the latter slightly dentated near the apex; secondaries dark brown, with a wide pale yellow band extending from the costal margin near the apex to the inner margin above the anal angle, the outer margin deeply dentated; the underside pale yellow, the primaries with a rather large black spot at the end of the cell, and crossed from the costal to the inner margin by two wide waved black bands, the secondaries crossed only by a central black band, the outer band being broken up into very fine lines: head, thorax, abdomen, antennæ, and legs brown; the palpi brown, with the third joint black. Expanse 2 inches.

*Hab.* PANAMA, Chiriqui (*Ribbe*, in *mus. Staudinger*).

A single specimen only of this very distinct species has been communicated by Dr. Staudinger; its nearest ally appears to be *C. genevana*, Westw.

### 13. *Coronidia ocylus*.

*Coronis ocylus*, Boisd. Lép. Guat. p. 76<sup>1</sup>.

*Coronidia ocylus*, Westw. Trans. Zool. Soc. x. p. 539<sup>2</sup>.

*Coronis dutreuxi*, Deyr. Rev. et Mag. Zool. 1874, t. 8. f. 3<sup>3</sup>.

*Hab.* ? MEXICO<sup>1 2</sup>; GUATEMALA<sup>1 2</sup>; COSTA RICA<sup>3</sup>.

We are indebted to Mons. C. Oberthür for kindly lending us the type of *C. ocylus*, Boisd.; it proves to belong to the same species as *C. dutreuxi*, Deyr.

Sect. 4. *Alis posticis haud fasciatis*, Westw.

### 14. *Coronidia leachii*.

*Agarista leachii*, Godt. Encycl. Méth. ix. p. 803<sup>1</sup>.

*Coronis leachii*, Guérin, Icon. Règne Anim., Ins. p. 493, t. 83. f. 3<sup>2</sup>; Gray, in Griffith's Anim. Kingd., Ins. p. 596, t. 53. f. 3<sup>3</sup>; Boisd. Sp. gén. des Lép. i. t. 14 (10 B), f. 2<sup>4</sup>; Walk. Cat. i. p. 39<sup>5</sup>; Guen. Sp. gén. des Lép. ix. p. 22, Uran. t. 1. f. 2 (♂)<sup>6</sup>.

*Coronidia leachii*, Westw. Trans. Zool. Soc. x. p. 540, t. 88. f. 11<sup>7</sup>.

*Hab.* MEXICO (*Hartweg*<sup>5 7</sup>); GUATEMALA, Coban in Vera Paz (*Conradt*), San Gerónimo (*Champion*); PANAMA, Chiriqui (*Ribbe*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—BRAZIL<sup>1 2 6 7</sup>.

Mr. Champion captured a good series of specimens of this insect at San Gerónimo. It varies considerably in size, one of the examples from Chiriqui being hardly more than half the size of some of those from Guatemala. From Guatemala I have both sexes before me; they clearly prove that Guenée was wrong in supposing that *C. leachii* was the male of the yellow-banded *C. japed*, the markings of the wings scarcely differing in the two sexes.



**Fam. GEOMETRIDÆ.**Subfam. *URAPTERYGINÆ*.

## SERICOPTERA.

*Sericoptera*, Herrich-Schäffer, Samml. aussereur. Schmett. pp. 27, 40, no. 39 (1853).

*Ripula*, Guenée, Sp. gén. des Léop. ix. p. 34 (1857); Butler, Journ. Linn. Soc., Zool. xvii. p. 200, t. 9. ff. 17, 18 (neuration ♂) (1884).

**1. *Sericoptera mahometaria*.**

*Sericoptera mahometaria*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 40, 78, ff. 69, 70<sup>1</sup>; Corr.-Blatt zool.-min. Ver. Regensb. 1870, sep. copy, p. 47<sup>2</sup>.

*Ripula mahometaria*, Guen. Sp. gén. des Léop. ix. p. 34<sup>3</sup>; Walk. Cat. xx. p. 13<sup>4</sup>; Snell. Tijdschr. voor Ent. xvii. p. 11<sup>5</sup>; Butl. Journ. Linn. Soc., Zool. xvii. p. 200<sup>6</sup>; Reiss & Stübel, Reisen in Süd-Amerika, p. 57<sup>7</sup>.

*Ripula mexicaria*, Guen. Sp. gén. des Léop. ix. p. 35<sup>8</sup>; Walk. Cat. xx. p. 14<sup>9</sup>.

*Hab.* MEXICO<sup>4 6 8 9</sup>, Oaxaca (*Sallé*, in *Mus. Brit.*<sup>4</sup>), Tuxpan (*coll. Schaus*), Coatepec (*Schaus, Brooks*), Jalapa (*Höge*); GUATEMALA, in the city (*Rodriguez*), Dueñas, San Isidro 1600 feet (*Champion*); PANAMA, Chiriqui (*Ribbe, mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*). — COLOMBIA<sup>5</sup>, Frontino; VENEZUELA<sup>1 3</sup>; ECUADOR<sup>7</sup>; BOLIVIA<sup>4 6</sup>; SOUTH-EAST BRAZIL, Rio Janeiro; CUBA<sup>2</sup>.

This species varies considerably in size and colour, and also in the distinctness of the markings. It is possible that *S. mahometaria* may be inseparable from *Phalæna area*, Cram.; but Cramer's figure is so unlike any of the specimens before me that I prefer using Herr.-Schäffer's name, instead of sinking it as a synonym as Möschler has done (Verh. zool.-bot. Ges. Wien, 1881, p. 394).

## NEPHELOLEUCA.

*Nepheloleuca*, Butler, Journ. Linn. Soc., Zool. xvii. pp. 197, 201, t. 9. ff. 11, 12 (neuration) (1883).

Butler based this genus upon *Phalæna politia*, Cram., a species that had been placed in *Urapteryx* by Leach, Guenée, Snellen, and others, but from which it differs considerably in form and neuration. A second species is now added from our region.

**1. *Nepheloleuca politia*.**

*Phalæna politia*, Cram. Pap. Exot. ii. p. 65, t. 139. f. E<sup>1</sup>.

*Phalæna Geometra politata*, Fabr. Sp. Ins. ii. p. 253<sup>2</sup>.

*Eulepidotis politaria*, Hübn. Verz. bek. Schmett. p. 291<sup>3</sup>.

*Ourapteryx politata*, Leach, Zool. Misc. i. p. 80, t. 35. f. 1<sup>4</sup>.

*Urapteryx politata*, Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1870, sep. copy, p. 49<sup>5</sup>; Guen. Sp. gén. des Léop. ix. p. 30<sup>6</sup>.

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*Urapteryx politia*, Walk. Cat. xx. p. 7<sup>7</sup>; Snell. Tijdschr. voor Ent. xvii. p. 10<sup>8</sup>; Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 394<sup>9</sup>; Beitr. Schmett.-Fauna von Jamaica, p. 67<sup>10</sup>; Reiss & Stübel, Reisen in Süd-Amerika, p. 57<sup>11</sup>.

*Urapteryx complicata*, Guen. Sp. gén. des Léop. ix. p. 30, Phalén. t. 6. f. 9<sup>12</sup>; Walk. Cat. xx. p. 7<sup>13</sup>.

*Hab.* MEXICO, Oaxaca (*Sallé*<sup>7</sup>), Jalapa, Coatepec (*coll. Schaus*), Cordova (*Rümeli*), San Lorenzo (*M. Trujillo*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, El Tumbador, San Isidro, Volcan de Atitlan, San Gerónimo (*Champion*); NICARAGUA, Chontales (*Belt*); PANAMA, Chiriqui (*Ribbe*; *Arcé, mus. D.*).—COLOMBIA<sup>8</sup>; ECUADOR<sup>11</sup>, Quito<sup>7</sup>; GUIANA, Surinam<sup>147</sup>, Cayenne<sup>67</sup>, Paramaribo<sup>9</sup>; AMAZONS; BRAZIL<sup>67</sup>, S. Paulo, Rio Janeiro; ANTILLES, Cuba<sup>5</sup>, Jamaica<sup>710</sup>, San Domingo<sup>7</sup>, Haiti<sup>1213</sup>, Dominica.

This insect varies considerably in the extent of the dark-coloured markings on the secondaries, the specimens from South-east Brazil having these wings much more heavily marked than those from the more northern localities. Grote, 'Canadian Entomologist,' xv. p. 6, describes a variety of this species, from Indian River, under the name of *floridata*. Mr. Schaus informs us that this is a rare species in Mexico; in Colombia and Ecuador it is exceedingly common.

## 2. *Nepheloleuca ardanía*, sp. n. (Tab. XLII. fig. 1, ♂.)

*Male.* Primaries and secondaries creamy-white; the primaries crossed from the costal to the inner margin by four rather wide pale brownish-grey lines—the first near the base, the second just beyond the cell, the third halfway between the cell and the outer margin, and the fourth submarginal,—the costal margin from the base to the apex and also the outer margin thickly streaked with fine brownish-grey lines, a well-defined brownish-grey line at the end of the cell, the fringe brownish-grey; the secondaries crossed below the middle from near the costal margin to the anal angle by two distinct pale greyish-brown lines, between which a third line partly crosses the wing, a straight pale brownish-grey line extending from the base along the inner margin to the anal angle, and a black spot shaded round with yellow placed close to the margin in the short tail; the underside of both wings white, with indications of the lines as above and a submarginal row of small black dots: head, thorax, abdomen, anal tuft, palpi, and legs creamy-white, the antennæ yellowish-white, the eyes black. Expanse  $2\frac{1}{16}$  inches.

*Hab.* PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

Two males of this very distinct species were captured by Mr. Champion. Although very unlike *N. politia* in colour and markings, the neurulation is exactly similar. *N. ardanía* bears a slight resemblance to some of the eastern species of *Micronia*.

## ÆSCHROPTERYX.

*Chærodes*, Guenée, Sp. gén. des Léop. ix. p. 35 (1857) (nomen præocc.).

*Æschropteryx*, Butler, Journ. Linn. Soc., Zool. xvii. pp. 197, 204, t. 9. ff. 7, 8 (neurulation) (1883).

Butler gives *Chærodes tetragonata*, Guen., from Brazil, as the type of this genus, at the same time including in it five other species. The name *Chærodes* (not *Charodes* as given by Butler) is preoccupied in both Coleoptera and Mammalia.



1. *Æschropteryx tetragonata*.

*Chærodes tetragonata*, Guen. Sp. gén. des Léop. ix. p. 36, Phalén. t. 8. f. 1<sup>1</sup>; Walk. Cat. xx. p. 21<sup>2</sup>; Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 394<sup>3</sup>; Reiss & Stübel, Reisen in Süd-Amerika, p. 47<sup>4</sup>.

*Æschropteryx tetragonata*, Butl. Journ. Linn. Soc., Zool. xvii. p. 204<sup>5</sup>.

*Chærodes bifiliaria*, Feld. & Rogenh. Reise der Novara, Lep. t. 122. f. 1<sup>6</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch*, in *mus. Staudinger*). — COLOMBIA; ECUADOR<sup>4</sup>, Quito<sup>2 5</sup>; VENEZUELA<sup>2 5</sup>; GUIANA, Paramaribo<sup>3</sup>; AMAZONS, Pebas<sup>5</sup>; BRAZIL<sup>1</sup>.

From our region I have only seen one specimen, a female, kindly communicated by Dr. Staudinger. This agrees perfectly with others before me from Colombia and Ecuador, whence we have a good series of examples. The South-American specimens show very slight variation in colour, but the Colombian ones are a little paler than those from Ecuador.

2. *Æschropteryx incaudata*.

*Chærodes incaudata*, Guen. Sp. gén. des Léop. ix. p. 39<sup>1</sup>; Walk. Cat. xx. p. 26<sup>2</sup>.

*Hab.* PANAMA, Chiriqui (*Arcé*, in *mus. D.*), Volcan de Chiriqui (*Trötsch*, in *mus. Staudinger*). — BRAZIL?<sup>1 2</sup>.

I have seen two specimens of this species from Chiriqui. It is very closely allied to *Æ. onustaria*, but is larger, and has the lines on the primaries straighter.

3. *Æschropteryx onustaria*.

*Therinia onustaria*, Geyer, in Hübner's Zutr. Samml. exot. Schm. iv. p. 19, ff. 667, 668<sup>1</sup>.

*Chærodes onustaria*, Guen. Sp. gén. des Léop. ix. p. 37<sup>2</sup>; Walk. Cat. xx. p. 26<sup>3</sup>; Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 394<sup>4</sup>.

*Chærodes invisata*, Guen. Sp. gén. des Léop. ix. p. 37<sup>5</sup>; Walk. Cat. xx. p. 22<sup>6</sup>.

*Hab.* MEXICO, Coatepec (*coll. Schaus*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet, Pantaleon 1700 feet (*Champion*); PANAMA, Chiriqui (*Ribbe*, in *mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Panama city (*J. J. Walker*). — GUIANA, Paramaribo<sup>4</sup>; BRAZIL<sup>5 6</sup>.

This species is common in Guatemala and the State of Panama. It varies very considerably in colour and in the distinctness of the markings. Guatemalan specimens are always paler in colour than those from more southern localities. Geyer gives<sup>1</sup> Java as the locality of his specimen, but that must be a mistake, the genus being entirely confined to the New World. The Mexican specimen in Mr. Schaus's collection is smaller, and has the secondaries less angular than usual; but in our large series from Guatemala we have two or three examples very similar to it.

4. *Æschropteryx marciana*, sp. n. (Tab. XLII. fig. 2.)

*Male.* Primaries and secondaries pale greyish-brown, the primaries with very faint brown streaks over the greater part of the surface, a black dot at the end of the cell of both wings; the primaries crossed from



the apex to about the middle of the inner margin by a narrow whitish-brown line, which is edged on the inner side with a darker line, this latter interrupted by the nervures, which are white; the secondaries crossed about the middle by a line corresponding to that on the primaries, below which are some dark streaks and spots; the underside of both wings dull greyish-brown, with the black dots very distinct; the fringe greyish-brown: head and collar blackish-brown; the thorax, abdomen, and hind legs greyish-brown; the front legs and antennæ dark brown, the former banded with pale greyish-brown. The female very similar to the male, but considerably paler in colour. Expanse, ♂  $2\frac{4}{10}$ , ♀  $2\frac{1}{4}$  inches.

*Hab.* MEXICO, Coatepec, Jalapa (*coll. Schaus*); GUATEMALA, El Tumbador 2500 feet, Rio Naranjo 450 feet, Las Mercedes 3000 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

Mr. Schaus informs us that this is a rare insect in Mexico; we have only received it from Guatemala. *Æ. marciana* is allied to *Æ. onustaria*, from which it may be readily distinguished by its greyish colour, larger size, and blackish-brown head and collar.

#### 5. *Æschropteryx martina*, sp. n. (Tab. XLII. fig. 3, ♂.)

*Male.* Primaries and secondaries pale yellowish-brown, each crossed by a darker line, below which the wings are indistinctly clouded with brown, a black dot at the end of the cell on the primaries, the costal margin of the latter rather paler in colour than the other part of the wing; the underside of both wings pale fawn-colour, thickly irrorated with dark brown dots: head and front of the thorax yellowish-brown, the abdomen and legs darker in colour, the antennæ brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* GUATEMALA, in the city (*Rodriguez*), San Gerónimo and El Jicaro in Vera Paz (*Champion*).

Four specimens, all males. The example from the city of Guatemala is darker in colour than the others. *Æ. martina* is not closely allied to any species known to me.

### MICROGONIA.

*Microgonia*, Herrich-Schäffer, Samml. aussereur. Schmett. p. 41 (1855).

Herrich-Schäffer referred three species to this genus, and mentioned another as possibly belonging to it.

#### 1. *Microgonia rhodaria*.

*Microgonia rhodaria*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 41, 63, f. 348<sup>1</sup>.

*Chærodes* (?) *rhodaria*, Walk. Cat. xxvi. p. 1480<sup>2</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—BRAZIL<sup>1 2</sup>.

A specimen from Chiriqui agrees fairly well with Herrich-Schäffer's figure, but it is darker in colour.

### CIRSODES.

*Cirsodes*, Guenée, Sp. gén. des Lép. ix. p. 41 (1857); Walker, Cat. xx. p. 30.

*Laudosia*, Walker, Cat. xx. p. 268.

Guenée included three species in this genus, one from Brazil and two from Colombia.

It is allied to *Sabulodes*, from which it may be at once distinguished by the outer margin of the secondaries being very much rounded, instead of angular, as in that genus.

1. **Cirsodes acuminata.** (Tab. XLII. fig. 5, ♀.)

*Cirsodes acuminata*, Guen. Sp. gén. des Lép. ix. p. 41<sup>1</sup>; Walk. Cat. xx. p. 31<sup>2</sup>.

*Laudosia buddloraria*, Walk. Cat. xx. p. 268<sup>3</sup>, & xxvi. p. 1524.

*Hab.* MEXICO, Jalapa, Coatepec (*coll. Schaus*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—COLOMBIA, Antioquia; VENEZUELA<sup>3</sup>; ECUADOR; BRAZIL<sup>1 2</sup>.

We have only received two female specimens of this insect; but both sexes are represented in Mr. Schaus's collection. Our figure of the female is taken from a Chiriqui example. The Mexican male agrees with others of the same sex from Colombia and Ecuador in my own collection.

2. **Cirsodes arceno**, sp. n. (Tab. XLII. fig. 4, ♂.)

*Male.* Primaries and secondaries pale brownish-fawn-colour; the primaries crossed from the costal to the inner margin by two faint, waved, brown lines—the first nearest the base, the second almost submarginal,—and with several small black spots on the outer side of the external line, those nearest the apex being the largest, a dark brown spot at the end of the cell; the secondaries crossed below the middle from the costal to the inner margin by a faint line; the underside very similar to the upperside, but more thickly irrorated with darker scales: head, thorax, abdomen, antennæ, and legs pale fawn-colour. Expanse  $1\frac{3}{8}$  inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

Two specimens, both males. Allied to *C. acuminata*, Guen., but altogether smaller and also darker in colour.

SABULODES.

*Sabulodes*, Guenée, Sp. gen. des Lép. ix. p. 42 (1857); Walker, Cat. xx. p. 32.

Guenée placed nine species in this genus, all from Tropical South America; and others have since been described by Felder and Rogenhofer, Snellen, and Oberthür. No less than eight are now added from our region.

1. **Sabulodes arenularia.**

*Sabulodes arenularia*, Snell. Tijdschr. voor Ent. xvii. p. 12, t. i. f. 1<sup>1</sup>.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*), Cuesta de Misantla (*M. Trujillo*), Coatepec (*Brooks*); GUATEMALA, Las Mercedes 3000 feet (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA, Bogota<sup>1</sup>; ECUADOR.

2. **Sabulodes arge**, sp. n. (Tab. XLII. fig. 6.)

*Male.* Primaries and secondaries uniform pale fawn-colour, slightly hyaline, both wings crossed beyond the middle by a very indistinct narrow line, and with very minute black dots on each vein, the fringe rather darker than the ground-colour; the underside as above, but slightly paler in colour: head, thorax,



abdomen, antennæ, and legs pale fawn-colour. The female is very similar to the male, but is paler in colour and has the outer margin of the primaries more angular. Expanse, ♂  $1\frac{1}{2}$ , ♀  $1\frac{3}{4}$  inch.

*Hab.* GUATEMALA, Las Mercedes 3000 feet (*Champion*), Guatemala city (*Rodriguez, in mus. D.*); PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).

Examples of both sexes of this insect have been kindly given to me by M. Léon Candèze; two female specimens only were obtained by Mr. Champion.

### 3. *Sabulodes argyra*, sp. n. (Tab. XLII. figg. 7, ♂; 8, ♀.)

*Male.* Primaries and secondaries greyish-white; the primaries crossed from the costal to the inner margin by three lines—the first two nearly straight, the third very much waved and joining the second line on the inner margin; the secondaries crossed from the costal to the inner margin by two faint lines, which coalesce on the inner margin above the anal angle; the underside of both wings nearly white, without markings, except a faint spot at the end of the cell on the primaries: head, thorax, and abdomen pale yellowish-brown, shaded with white, the antennæ and legs very pale fawn-colour. The female is slightly larger, darker in colour, and has all the lines much more distinctly marked than in the male; it has the underside thickly irrorated with brownish-grey scales, and there is a rather large black spot at the end of the cell of both wings. Expanse, ♂  $1\frac{3}{4}$ , ♀ 2 inches.

*Hab.* GUATEMALA, Totonicapam 8500 to 10,500 feet (*Champion*).

Two examples, one of each sex, from the pine-woods on the summit of the Cordillera above Totonicapam.

### 4. *Sabulodes arses*, sp. n. (Tab. XLII. figg. 11, ♂; 12, 13, ♀.)

*Male.* Primaries and secondaries very pale greyish-fawn-colour, thickly irrorated with darker scales; the primaries crossed from the costal to the inner margin by three darker waved lines—the third very much broken and hardly reaching the inner margin; the secondaries crossed by two lines, the inner one very much more distinct than the outer one; the underside greyish-white, the primaries with the costal margin thickly irrorated with brown scales, and with a black dot at the end of the cell, a narrow black submarginal line extending from the apex to near the anal angle of both wings: head, thorax, abdomen, antennæ, and legs pale greyish-fawn-colour. The female is slightly larger and more dusky in colour than the male, and has the submarginal row of spots on the veins of both wings much more distinct. Expanse, ♂  $1\frac{1}{2}$ , ♀  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Coatepec (*coll. Schaus, Brooks*), Jalapa (*M. Trujillo*).

Allied to *S. argyra*, but easily distinguishable therefrom by the black submarginal line on the underside of both wings; the females of the two species, as will be seen from our figures, are very distinct.

Two specimens only, both females, have been received by us; the male example is contained in Mr. Schaus's collection.

### 5. *Sabulodes mastaura*, sp. n. (Tab. XLII. figg. 9, ♂; 10, ♀.)

*Male.* Primaries and secondaries very pale greyish-fawn-colour, thickly irrorated with darker scales; the primaries crossed from the costal to the inner margin by two waved pale lines—the first nearest the base, bordered on the outer side with a darker line, the second almost submarginal, the latter bordered on the inner side with a rather wide darker band,—and with a dusky spot at the end of the cell; the secondaries crossed by two very faint waved lines; the underside of both wings uniformly greyish-white: head, thorax, abdomen, antennæ, and legs pale greyish-fawn-colour. The female is larger than



the male, greyer in colour, and has the lines on both wings very much more distinctly marked. Expanse, ♂  $1\frac{1}{2}$ , ♀  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

Mr. Schaus informs me that this species is common at Las Vigas in the month of May. We have not received any specimens of it.

*S. mastaura* is nearest allied to the Guatemalan *S. argyra*.

6. **Sabulodes matrona**, sp. n. (Tab. XLII. fig. 14, ♂.)

*Male.* Primaries and secondaries pale yellowish-white, crossed from costal to the inner margin by two very faint dusky lines, the submarginal line represented by a row of small dots on the veins, the fringe pale yellowish-white; the underside pale yellowish-white, considerably darker along the costal margin of the primaries, both wings with a submarginal row of small black dots, the ends of the veins with very minute black points, a black dot on both wings at the end of the cell: head, thorax, abdomen, and legs yellowish, the antennæ yellowish-brown. Expanse, ♂,  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

Seven specimens, one of which is of a darker yellow colour than the others, with all the lines very indistinct.

7. **Sabulodes meduana**, sp. n. (Tab. XLII. fig. 15, ♂.)

*Male.* Primaries and secondaries pale fawn-colour, paler at the base, slightly irrorated with darker scales and with black points along the outer margin at the ends of the veins; the underside greyish-white, the costal margin and the apex shaded with pale reddish-brown: head, thorax, abdomen, and legs the same colour as the wings, the antennæ reddish-brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

Four specimens. A very dull-coloured species, with scarcely any markings; it appears to be allied to *S. ægrotata* (Guen.).

8. **Sabulodes ægrotata**.

*Tetracis ægrotata*, Guen. Sp. gén. des Lép. ix. p. 141<sup>1</sup>; Walk. Cat. xx. p. 173<sup>2</sup>; Grote, List of North-American Moths, p. 44<sup>3</sup>; Pack. United States Geol. Surv. of the Territ. x. p. 555, t. 13. f. 65 (1876)<sup>4</sup>.

*Chærodes ægrotata*, Pack. Proc. Bost. Soc. Nat. Hist. xiii. p. 382<sup>5</sup>.

*Hab.* NORTH AMERICA, California<sup>1 2 3 4 5</sup>.—MEXICO, Coatepec (*Brooks*), Jalapa (*coll. Schaus*), Cuesta de Misantla (*M. Trujillo*); GUATEMALA, Las Mercedes 3000 feet, Volcan de Atitlan 2500 to 3500 feet, San Gerónimo (*Champion*), Guatemala city (*Rodriguez*); PANAMA, Volcan de Chiriqui 4000 feet (*Champion*).—COLOMBIA, Antioquia; PERU.

This species has a very extended range, from California to Colombia and Peru. It varies slightly in colour, but can always be distinguished from the allied forms by the reddish-brown patch inside the row of black spots on the underside of the primaries.

9. **Sabulodes arnissa**, sp. n. (Tab. XLII. figg. 16, ♂; 17, 18, ♀.)

*Male.* Primaries and secondaries dull brownish-fawn-colour, crossed beyond the middle by a rather wide but very indistinct dark waved band, a dark spot at the end of the cell; the underside considerably paler than

the upperside, the costal margin of the primaries and a submarginal row of spots on both wings yellowish-brown: head, thorax, and abdomen the same colour as the wings, the antennæ and legs yellowish-brown. The female is considerably larger than the male; it has a rather large square-shaped dark brown spot just below the end of the cell on the primaries, and on both wings the spots and markings are very much more distinct; the underside is also darker in colour, with all the spots better defined. Expanse, ♂  $1\frac{4}{10}$ , ♀  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Coatepec (*coll. Schaus*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

The Mexican specimen in Mr. Schaus's collection is slightly larger and greyer in colour than any of those we have received from Guatemala.

### 10. *Sabulodes colombiata*.

*Sabulodes colombiata*, Guen. Sp. gén. des Lép. ix. p. 44<sup>1</sup>; Walk. Cat. xx. p. 33<sup>2</sup>.

*Clysia subopalaria*, Walk. Cat. xx. p. 46<sup>3</sup>.

*Chærodes subclararia*, Walk. Cat. xx. p. 221<sup>4</sup>; xxi. p. 493<sup>5</sup>.

*Chærodes* (?) *atropesaria*, Walk. Cat. xx. p. 222<sup>6</sup>.

*Hab.* MEXICO, Jalapa, Cuesta de Misantla (*M. Trujillo*), Cordova (*Rümeli*); GUATEMALA, Quiche Mountains 7000 to 9000 feet (*Champion*).—COLOMBIA<sup>1 2</sup>, Bogota<sup>6</sup>; SOUTH-EAST BRAZIL, Rio Janeiro<sup>3</sup>; ANTILLES, San Domingo<sup>3 4</sup>.

It is possible that *S. colombiata* may prove to be a large race of *S. caberata*; but, to judge from the specimens before me, I am inclined to consider it as distinct. It is always considerably larger, and is generally darker in colour and much more heavily marked.

### 11. *Sabulodes caberata*.

*Sabulodes caberata*, Guen. Sp. gén. des Lép. ix. p. 45<sup>1</sup>; Walk. Cat. xx. p. 34<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*); GUATEMALA, Las Mercedes 3000 feet, San Isidro 1600 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*); COSTA RICA, Caché, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—BRAZIL<sup>1 2</sup>.

This small species has a wide range in our region.

### 12. *Sabulodes matrica*, sp. n. (Tab. XLII. fig. 19, ♂.)

*Male.* Primaries and secondaries dull brownish-fawn-colour, thickly irrorated with darker scales; the primaries crossed from the costal to the inner margin by three waved dark lines—the first near the base, the second beyond the cell, and the third between it and the outer margin, the third line much curved above the anal angle and almost joining the second line on the inner margin,—and with a rather large indistinct spot just above the anal angle and a small spot at the end of the cell, both dark brownish-fawn-colour; the underside considerably paler in colour, with the costal and outer margins shaded with dusky brown, the secondaries with a marginal row of small black dots: head, thorax, abdomen, antennæ, and legs brownish-fawn-colour. The female is larger than the male, and has all the markings more distinct. Expanse, ♂  $1\frac{1}{2}$ , ♀  $1\frac{6}{10}$  inch.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).



Four specimens of this species are before me; they do not show any variation. A male from Costa Rica is figured.

### CERTIMA.

*Certima*, Walker, Cat. xxi. p. 479 (1860).

This genus was founded by Walker upon a single species from Bogota. He placed it at the end of the Boarminæ, but it appears to me to be more nearly allied to *Sabulodes*; I therefore place it after that genus.

#### 1. *Certima permutans*.

*Certima permutans*, Walk. Cat. xxi. p. 479<sup>1</sup>.

*Hab.* PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA, Bogota<sup>1</sup>.

A very common species on the Volcan de Chiriqui. Mr. Champion captured a large number of specimens of both sexes, which agree perfectly with Walker's types in the National Museum.

### MUCRONODES.

*Mucronodes*, Guenée, Sp. gén. des Lép. ix. p. 47 (1857); Walker, Cat. xx. p. 36.

Two species, both from Brazil, were included in this genus by Guenée; and, according to Butler (Trans. Ent. Soc. Lond. 1881, p. 316), *Chaerodes transcendens*, Walk., belongs to it. The sexes of the last-mentioned species are very much alike; females only were known to Guenée and Walker.

#### 1. *Mucronodes transcendens*.

*Chaerodes transcendens*, Walk. Cat. xx. p. 24<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan (*coll. Schaus*); BRITISH HONDURAS, Corosal (*Roe, in mus. D.*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—WEST COAST OF AMERICA (*Kellett & Wood*<sup>1</sup>); COLOMBIA; ECUADOR.

This species varies very much in colour, the examples from our region being generally paler than those from the South-American continent. Mr. Schaus informs me that this is a common insect in Eastern Mexico, but we have only received a few specimens of it.

#### 2. *Mucronodes artemon*, sp. n. (Tab. XLII. fig. 20, ♂.)

*Male.* Primaries and secondaries dark reddish-fawn-colour; the primaries with the basal portion darker than the other part, a curved narrow line crossing the wing towards the base, a black dot at the end of the cell, and a narrow pinkish-brown line extending from the apex to the inner margin above the anal angle; the secondaries crossed beyond the middle from the costal to the inner margin by a narrow pale pinkish-

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brown line; the underside pale yellowish-fawn-colour, both wings slightly irrorated with black scales near the base: head, thorax, abdomen, antennæ, and legs brownish-fawn-colour. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

One specimen.

### CIMICODES.

*Cimicodes*, Guenée, Sp. gén. des Léop. ix. p. 49 (1857); Walker, Cat. xx. p. 37.

Guenée referred four species from Tropical America to this genus, and several have since been described by other authors. *Hygrochroa galbanaria*, Feld. & Rogenh., from the Amazons, belongs to it.

#### 1. *Cimicodes clisthena*.

*Phalæna Geometra clisthena*, Cram. Pap. Exot. iv. p. 228, t. 397. f. L<sup>1</sup>.

*Cimicodes clisthenata*, Guen. Sp. gén. des Léop. ix. p. 50<sup>2</sup>.

*Cimicodes clisthena*, Walk. Cat. xx. p. 39<sup>3</sup>.

*Cimicodes latata*, Guen. Sp. gén. des Léop. ix. p. 50<sup>4</sup>; Walk. Cat. xx. p. 38<sup>5</sup>.

*Hab.* GUATEMALA, San Juan in Vera Paz (*Champion*); PANAMA, Chiriqui (*Arcé, in mus. D.*; *Trötsch, in mus. Staudinger*).—GUIANA, Surinam<sup>1 2 3</sup>; SOUTH-EAST BRAZIL, Rio Janeiro<sup>4 5</sup>.

This is a rather variable species, both in size and colour. Cramer's figure of *C. clisthena* is a very poor one, but I have no doubt that the insect described by Guenée under the name of *C. latata* belongs to the same species. *C. manoaria*, Feld. & Rogenh., from Brazil, although considerably larger in size, is probably a variety of *C. clisthena*.

#### 2. *Cimicodes torquataria*.

*Cimicodes torquataria*, Walk. Cat. xx. p. 39 (♀)<sup>1</sup>.

*Gynopteryx liodesaria*, Walk. Cat. xx. p. 97 (♂)<sup>2</sup>.

*Hab.* MEXICO, Cuesta de Misantla (*M. Trujillo*); PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—VENEZUELA<sup>1 2</sup>.

Our specimen from Mexico is a female, and agrees well with Walker's type of *C. torquataria* in the National Museum. It is quite possible that this species will have to be separated from *Cimicodes*, the antennæ of the male being rather deeply pectinated.

*C. galbanaria* (Feld. & Rogenh.) is closely allied to this species, from which it may be at once distinguished by having three (instead of two) lines crossing the primaries.

#### 3. *Cimicodes primularia*, sp. n. (Tab. XLII. fig. 21, ♂.)

*Male.* Primaries and secondaries pale primrose-yellow, a greenish-yellow line crossing the primaries from the apex to the middle of the inner margin, this line being continued across the secondaries to a little above the middle of the inner margin; the primaries with a very faint curved line crossing near the base from the costal to the inner margin, and two confluent spots, these spots whitish-brown, edged with dark

brown, and placed about halfway between the costal and inner margins on the outer side of the dark line, the upper one small, the lower one considerably larger; the secondaries with two similar spots above the anal angle and nearest the inner margin; the fringe primrose-yellow, slightly darker than the wings; the underside of a brighter and darker yellow colour than the upperside, the primaries only crossed by a reddish-brown line (corresponding with the line on the upperside), the secondaries with three small reddish-brown spots near the apex, both wings very slightly irrorated with dark reddish-brown scales: head, thorax, abdomen, and legs pale yellow, the antennæ and palpi pale brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* GUATEMALA, Senahu in Vera Paz 2500 feet (*Champion*).—ECUADOR, Sarayacu (*Buckley, in mus. D.*).

One specimen of this very distinct species has been received from Guatemala. An example of the female from Ecuador is contained in my own collection; it differs from the male only in the entire absence of the spots on the wings.

### PARAGONIA.

*Paragonia*, Hübner, Verz. bek. Schmett. p. 292 (1816).

*Clysia*, Guenée, Sp. gén. des Lép. ix. p. 50 (1857); Walker, Cat. xx. p. 40.

Hübner included a single species, *Phalæna tasima*, Cram., from Surinam, under this generic name. The genus is represented in Central America by four species, including *P. tasima*.

#### 1. *Paragonia tasima*.

*Phalæna Geometra tasima*, Cram. Pap. Exot. iii. p. 80, t. 240, ff. D, E<sup>1</sup>.

*Paragonia tasimaria*, Hübn. Verz. bek. Schmett. p. 292<sup>2</sup>.

*Clysia tasimata*, Guen. Sp. gén. des Lép. ix. p. 52<sup>3</sup>.

*Clysia tasima*, Walk. Cat. xx. p. 42<sup>4</sup>.

*Paragonia tasima*, Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 395<sup>5</sup>.

*Clysia discolor*, Walk. Journ. Linn. Soc., Zool. ix. p. 195<sup>6</sup>.

*Paragonia nummularia*, Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 395<sup>7</sup>.

*Clysia ædipodaria*, Oberth. Etudes d'Eut. vii. p. 19, t. 2. f. 8<sup>8</sup>.

*Hab.* GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Bugaba 800 to 1500 feet (*Champion*).—COLOMBIA, Bogota<sup>6</sup>; GUIANA, Surinam<sup>1 3 4</sup>, Paramaribo<sup>5 7</sup>; PERU, Tambillo<sup>8</sup>.

This species varies very considerably in the distinctness of the markings, and also in colour. The type of *Clysia discolor*, Walk., is now in my own collection; it is inseparable from Cramer's species. The specimen from Chiriqui in Dr. Staudinger's collection has a distinct white costal spot, and the usual markings and spots are very indistinct. In some of the Ecuador examples in my collection, captured by Buckley, the white costal spot is just visible. Walker mentions<sup>4</sup> a specimen from Rio Janeiro in Mr. Fry's collection, which has the white costal spot; he also states<sup>4</sup> that *Clysia comiciata*, Guen., seems to be identical with *Paragonia tasima* (Cram.), which I am inclined to think is correct.



## 2. *Paragonia occiduata*.

*Clysia* (?) *occiduata*, Guen. Sp. gén. des Léop. ix. p. 52<sup>1</sup>; Walk. Cat. xx. p. 42<sup>2</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Bugaba 800 to 1500 feet (*Champion*).—BRAZIL<sup>1 2</sup>.

This species is allied to *P. cruraria* (Herr.-Schäff.), of which it is possible it may be an extreme variety. It is, however, considerably brighter in colour, and differs from that insect by having the outer margin of the secondaries straight in both sexes, instead of dentated as in *P. cruraria*.

## 3. *Paragonia cruraria*.

*Macaria cruraria*, Herr.-Schäff. Samml. aussereur. Schmiett. pp. 63, 80, f. 198<sup>1</sup>.

*Clysia cruraria*, Guen. Sp. gén. des Léop. ix. p. 51<sup>2</sup>; Walk. Cat. xx. p. 42<sup>3</sup>.

*Paragonia cruraria*, Möesl. Verh. zool.-bot. Ges. Wien, 1881, p. 395<sup>4</sup>.

*Hab.* MEXICO, Paso de San Juan, Jalapa, Coatepec (*coll. Schaus*), Cuesta de Misantla (*M. Trujillo*); GUATEMALA, San Isidro, Volcan de Atitlan 2500 to 3500 feet, Pantaleon (*Champion*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—GUIANA, Paramaribo<sup>4</sup>, Surinam<sup>1</sup>; BRAZIL<sup>2 3</sup>.

In Mexico and Guatemala this appears to be a very common insect. It varies much in colour and in the distinctness of the markings; but, so far as the large number of specimens before me show, *P. cruraria* is always of a duller tint than either of the preceding species. At the same time, it is quite possible that *P. occiduata* and *P. cruraria* may prove to be forms of *P. tasima*, Cram.

## 4. *Paragonia arbocala*, sp. n. (Tab. XLII. fig. 22, ♂.)

*Male.* Primaries and secondaries from the base to considerably beyond the middle pale yellowish-brown, shading in parts almost to white, and thickly irrorated with very fine brown lines; the primaries crossed from the costal to the inner margin by two dark brown waved lines—the first crossing the wing about the middle of the cell, the second beyond it, the latter not reaching the inner margin, but joining the very wide outer greyish-brown border about the middle; the secondaries very broadly bordered with greyish-brown from the costal margin to the apex; a small black spot at the end of the cell on both wings; the underside very similar to the upperside, but much paler in colour: head, thorax, abdomen, and legs pale yellowish-brown, the anal tuft almost white; the antennæ and palpi pale yellowish-brown. The female is slightly darker in colour than the male. Expanse, ♂,  $1\frac{7}{10}$  ♀  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*), Jalisco (*Schumann*).

Allied to *P. occiduata*, Guen.

## PROCHÆRODES.

*Prochærodes*, Grote, Trans. Kansas Acad. viii. p. 55; Ann. & Mag. Nat. Hist. (5) xi. p. 55 (1883).

Grote gives *Phalæna transversata*, Drury, from North America, as the type of this genus, and adds a second species, from New Mexico, to it. I include in it three species from Central or South America, one of which is described as new.



### 1. *Prochærodes transtincta*.

*Chærodes transtincta*, Walk. Cat. xx. p. 20<sup>1</sup>.

*Hab.* GUATEMALA, Cerro Zunil 4000 to 5000 feet, San Gerónimo (*Champion*).—JAMAICA<sup>1</sup>.

Two specimens from Guatemala, both females, agree with Walker's type of this species in the British Museum.

### 2. *Prochærodes arrhapa*, sp. n. (Tab. XLII. fig. 23, ♀.)

*Female.* Primaries and secondaries dark reddish-brown, in some lights with a bluish-white gloss; the primaries with a V-shaped white mark on the costal margin near the apex, below which on the outer side of the fine line that crosses the wing from the costal to the inner margin are a number of small white dots, a grey spot with a black point in the middle at the end of the cell, and three white spots crossing the wing near the base; the secondaries crossed about the middle from the costal to the inner margin by a narrow greyish-brown line; the fringe dark brown; the underside greyish-brown, darker at the apex and round the outer margin, a black dot on both wings at the end of the cell, and a small white spot on each vein, these spots forming a row that crosses both wings beyond the middle from the costal to the inner margin: head, thorax, abdomen, and antennæ dark brown; the legs brown, thickly spotted with yellowish-white. Expanse 2 inches.

*Hab.* GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

### 3. *Prochærodes columbipennis*. (Tab. XLII. fig. 24, ♂.)

*Clysia columbipennis*, Walk. Cat. xx. p. 44<sup>1</sup>.

*Hab.* GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Bugaba 800 to 1000 feet (*Champion*), Volcan de Chiriqui (*Arcé, in mus. D.*).—COLOMBIA; ECUADOR; AMAZONS, Santarem<sup>1</sup>.

From the more southern localities mentioned above we have a good series of specimens, which show a considerable amount of variation in the size and colour of the dark spot near the anal angle of the primaries. On the underside the markings are all very constant. The sexes differ very little from each other in colour or shape. We figure a male example from Bugaba.

## LYCIMNA.

*Lycimna*, Walker, Cat. xx. p. 214 (1860).

Walker founded this genus upon a species from Silhet, and Butler (Trans. Ent. Soc. Lond. 1881, p. 317) has referred *Clysia succedens*, Walk., from Tropical South America, to it. *Lycimna* was placed by Walker in the Ennominae, but it appears to me to belong to the Urapteryginae.

### 1. *Lycimna latrata*.

*Azelina latrata*, Guen. Sp. gén. des Lép. ix. p. 163<sup>1</sup>; Walk. Cat. xx. p. 193<sup>2</sup>; Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1870, sep. copy, p. 49<sup>3</sup>.

*Clysia succedens*, Walk. Cat. xx. p. 43<sup>4</sup>.

*Paragonia succedens*, Feld. & Rogenh. Reise der Novara, Lep. t. 122. f. 11<sup>5</sup>.

*Hab.* MEXICO, Coatepec (*Brooks, coll. Schaus*), Jalapa (*Godman, Schaus, M. Trujillo, Höge*), Cuesta de Misantla (*M. Trujillo*); GUATEMALA, San Joaquin, Las Mercedes 3000 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).—COLOMBIA<sup>12</sup>, Bogota<sup>45</sup>; ECUADOR, Quito<sup>4</sup>; BRAZIL<sup>12</sup>; CUBA<sup>3</sup>.

A common species in Mexico and Central America. It varies very considerably, not only in size but in colour; some specimens are much darker than others. We have one example from Guatemala very nearly agreeing with Felder and Rogenhofer's figure, but most of them are more highly coloured; on the underside they do not show the slightest variation.

## 2. *Lycimna caninata*. (Tab. XLIII. figg. 1, ♂; 2, ♀.)

*Azelina caninata*, Guen. Sp. gén. des Lép. ix. p. 163<sup>1</sup>; Walk. Cat. xx. p. 194<sup>2</sup> (nec Snellen).

*Hab.* GUATEMALA, San Gerónimo (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA<sup>12</sup>.

This species varies considerably in the depth of colour on the secondaries; the neururation is similar to that of *L. latrata*. The insect figured by Snellen as *Azelina caninata*, Guen. (Tijdschr. voor Ent. xvii. t. 2. f. 4), belongs to another species, and I propose the name *snelleni* for it.

## 3. *Lycimna brantsiata*.

*Tetracis brantsiata*, Snell. Tijdschr. voor Ent. xvii. p. 28, t. 2. f. 2<sup>1</sup>.

*Hab.* COSTA RICA (*mus. Staudinger*); PANAMA, Chiriqui (*Arcé, in mus. D.; Ribbe, in mus. Staudinger*).—COLOMBIA<sup>1</sup>.

I have received three specimens of this species from Arcé, and there are two others in Dr. Staudinger's collection.

## 4. *Lycimna matalia*, sp. n. (Tab. XLIII. fig. 3, ♂.)

*Male.* Primaries and secondaries light fawn-colour, thickly irrorated with black and dark brown scales; the primaries with three short brown streaks on the costal margin, three black spots near the outer margin above the anal angle, and a faint greenish-white narrow line crossing from the apex to the inner margin slightly above the anal angle, the outer margin and the fringe slightly reddish-brown; the secondaries crossed below the middle from the costal to the inner margin by a greenish-white line, above which is a dark brown zigzag line, and with a submarginal row of black spots extending from the apex to the anal angle, the spots nearest the anal angle being considerably larger than the others; a minute black dot at the end of the cell on both wings; the underside greyer in colour, thickly irrorated with brown and greenish-white scales, the primaries crossed from the costal to the inner margin by two faint brown bands—the first near the base, the second slightly beyond the end of the cell,—both wings crossed by a row of black dots with white points on the outer side, the primaries with a submarginal zigzag white line extending from the apex (where it is very distinct) to the anal angle; the fringe on the underside rather lighter than it is above: head, thorax, abdomen, antennæ, and legs pale fawn-colour. Expanse 1½ inch.



*Hab.* PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ECUADOR, Sarayacu (*Buckley*).

A single example from each locality, both males. The specimen from Ecuador in my own collection is slightly paler in colour than the one from Chiriqui.

5. *Lycimna artena*, sp. n. (Tab. XLIII. fig. 4, ♂.)

*Male.* Primaries and secondaries pale fawn-colour; the primaries with a broad space along the outer margin considerably darker, a black dot at the end of the cell, and two narrow pale yellowish-white lines crossing from the costal to the inner margin—the first nearest the base, >-shaped, the second extending from near the apex to the middle of the inner margin; a line in continuation of the outer one on the primaries extending across the secondaries to the inner margin; the fringe fawn-colour; the underside pale yellowish-fawn-colour, that of the primaries darker in colour, thickly irrorated with dark brown scales, a dark brown line partly crossing the primaries beyond the middle. Expanse  $1\frac{3}{4}$  inch.

*Hab.* GUATEMALA, Panima in Vera Paz (*Champion*).

One specimen from the Atlantic slope of Guatemala. The strongly angulate shape of the wings will be best understood from our figure.

#### ACROSEMIA.

*Acrosemia*, Herrich-Schäffer, Samml. aussereur. Schmett. pp. 31, 64 (1855); Butl. Trans. Ent. Soc. Lond. 1881, p. 317.

*Oxydia*, Guenée, Sp. gén. des Lép. ix. p. 52 (1857) (part.).

Herrich-Schäffer included two species in this genus, both from Tropical America; and Butler has added several others from Chili.

#### 1. *Acrosemia vulpecularia*.

*Acrosemia vulpecularia*, Herr.-Schäff. Samml. aussereur. Schmett. p. 64, f. 349<sup>1</sup>.

*Oxydia vulpecularia*, Guen. Sp. gén. des Lép. ix. p. 54<sup>2</sup>; Walk. Cat. xx. p. 49<sup>3</sup>; Snell. Tijdschr. voor Ent. xvii. p. 14<sup>4</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*); GUATEMALA, Senahu in Vera Paz (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 2000 to 4000 feet (*Champion*).—COLOMBIA<sup>4</sup>; BRAZIL<sup>1 2 3</sup>.

This species varies considerably in colour: Central-American examples are usually much brighter than those from the South-American continent, but the single specimen before me from Mexico is the palest I have seen.

*A. vulpecularia* is a common insect on the slope of the Volcan de Chiriqui.

#### IRA.

*Ira*, Walker, Cat. xxxv. p. 1562 (1866); Butler, Trans. Ent. Soc. Lond. 1881, p. 317.

This genus is very closely allied to *Acrosemia*, and agrees with it in having the antennæ simple in both sexes. *Ira* contains a few species from Central or South America.



### 1. *Ira bendiata*.

*Oxydia bendiata*, Guen. Sp. gén. des Lép. ix. p. 54, Phalén. t. 4. f. 4<sup>1</sup>; Walk. Cat. xx. p. 50<sup>2</sup>.

*Hab.* GUATEMALA, Las Mercedes 3000 feet (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ECUADOR; BRAZIL<sup>1 2</sup>, Rio Janeiro.

Guenée's figure of this insect is a very poor one: specimens from Rio Janeiro in my own collection agree best with it, but I am unable to separate them from the darker ones before me from Central America. *I. bendiata* varies very considerably in size and colour, and also in the distinctness of the markings. We have received a large series of the species; the females are always larger, and generally of a darker brown colour, than the males.

### 2. *Ira vinosata*.

*Oxydia vinosata*, Guen. Sp. gén. des Lép. ix. p. 55<sup>1</sup>; Walk. Cat. xx. p. 50<sup>2</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—BRAZIL<sup>1 2</sup>; PERU.

A female example of this species from Chiriqui is contained in Dr. Staudinger's collection.

## HERBITA.

*Herbita*, Walker, Cat. xx. p. 212 (1860).

The single species included in this genus by Walker is from Venezuela; two others are now added to it from within the limits of our fauna. *Herbita* is allied to *Ira*, from which it may be at once distinguished by the pectinated antennæ of the males.

### 1. *Herbita artayctes*, sp. n. (Tab. XLIII. figg. 5, ♂; 6, ♀.)

*Male.* Primaries and secondaries brownish-fawn-colour; the primaries irrorated near the base, along the inner margin, and on the outer margin with greyish-white scales, and with a greyish-white spot on the costal margin near the apex, two faint darker brown bands crossing from the costal to the inner margin, a narrow, rather indistinct waved brown line extending from the apex to the anal angle, and a small black dot at the end of the cell; the secondaries very slightly irrorated with minute black scales, and with a submarginal row of very minute white spots and a black spot at the end of the cell; the fringe brownish-fawn-colour; the underside considerably paler and greyer in colour, and very slightly irrorated with black scales: head, thorax, abdomen, antennæ, and legs brownish-fawn-colour. The female paler in colour than the male, and with all the markings blacker. Expanse, ♂ ♀, 2 inches.

*Hab.* MEXICO, Jalapa, Coatepec, Paso de San Juan (*coll. Schaus*).

The only specimens I have seen of this insect are those captured by Mr. Schaus, from a pair of which our figures are taken.

### 2. *Herbita medama*, sp. n. (Tab. XLIII. figg. 7, ♂; 8, ♀.)

*Male.* Primaries pale fawn-colour, crossed from the costal margin near the apex to about the middle of the inner margin by a fine blackish line, which is edged on the outer side with greyish-white, and with two waved darker brown bands crossing from the costal to the inner margin—the first about the middle of the cell, the second beyond it,—and a very minute black dot at the end of the cell, the outer margin broadly

shaded with pinkish-white; secondaries pale fawn-colour, clouded with darker scales near the anal angle and along part of the outer margin, and crossed about the middle by a narrow line (corresponding to the line that crosses the primaries); the underside pale whitish-fawn-colour, with a very indistinct line crossing both wings: head, thorax, abdomen, and legs pale fawn-colour, the antennæ and legs slightly darker.—*Female*. Primaries and secondaries dark reddish-brown, with the lines greyer in colour and the outer margins thickly irrorated with greyish-black scales; the primaries with the basal half banded with yellowish-fawn-colour (the colour being brighter about the middle of the wing), the spot on the costal margin near the apex much more distinct, and the pinkish colour on the outer margin less extended; the underside of both wings altogether darker, and with a submarginal greyish line; head and front of the thorax yellowish-fawn-colour, the rest of the thorax and the abdomen pale pinkish-fawn-colour, the legs dark reddish-brown, the antennæ whitish-fawn-colour. Expanso, ♂  $2\frac{1}{10}$ , ♀ 2 inches.

*Hab.* MEXICO, Jalapa, Paso de San Juan in Vera Cruz (*coll. Schaus*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Two males and one female, the males agreeing well with each other. We figure a pair from Mexico.

Since the publication of my remarks on the genus *Herbita*, a specimen of the following species has been communicated by Dr. Staudinger.

### 3. *Herbita* (?) *nedusia*, sp. n. (Tab. XLIV. fig. 1, ♂.)

*Male*. Primaries and secondaries reddish-brown; the primaries with the outer half clouded with greyish-brown, a narrow dark brown line extending from the apex to the inner margin near the anal angle, the line being marked with small yellowish dots, and a large light-brown spot close to the anal angle, the fringe brown; secondaries crossed from the costal to the inner margin slightly beyond the middle by two narrow brown lines, the outer one waved, below which the wing is lighter brown, a submarginal zigzag brown line extending partly across the wing from the anal angle, the fringe brown; the underside of both wings pale greyish-brown, with the outer margins clouded with darker brown: head, thorax, abdomen, antennæ, and legs reddish-brown. Expanso 2 inches.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

## OXYDIA.

*Oxydia*, Guenée, Sp. gén. des Lép. ix. p. 52 (1857) (part.).

Guenée divided *Oxydia* into six groups, several of which have since been treated as generically distinct. The genus still contains a large number of species, and it is well represented in our region. Some of its members vary to a very great extent.

### 1. *Oxydia mexicata*.

*Oxydia mexicata*, Guen. Sp. gén. des Lép. ix. p. 57<sup>1</sup>; Walk. Cat. xx. p. 48<sup>2</sup>.

*Hab.* MEXICO, Orizaba<sup>1 2</sup>.

Both this and the following species are unknown to me.

### 2. *Oxydia clarata*.

*Oxydia clarata*, Guen. Sp. gén. des Lép. ix. p. 57<sup>1</sup>; Walk. Cat. xx. p. 48<sup>2</sup>.

*Hab.* MEXICO, Cordova<sup>1 2</sup>.

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### 3. *Oxydia apidania*.

*Phalæna Geometra apidania*, Cram. Pap. Exot. iii. p. 103, t. 252. ff. C, D<sup>1</sup>.

*Oxydia apidaniata*, Guen. Sp. gén. des Lép. ix. p. 58<sup>2</sup>.

*Oxydia apidania*, Walk. Cat. xx. p. 51<sup>3</sup>; Mösehl. Verh. zool.-bot. Ges. Wien, 1881, p. 397<sup>4</sup>.

*Hab.* MEXICO, Coatepec (*coll. Schaus*), Cuesta de Misantla (*M. Trujillo*); PANAMA, Chiriqui (*Arcé, in mus. D.; Trötsch, in mus. Staudinger*), Bugaba 800 to 1500 feet (*Champion*), Colon (*Boucard, in mus. D.*).—GUIANA, Surinam<sup>1 2 3 4</sup>.

This species varies to an indefinite extent. We have received a good series of specimens, but hardly two of them are exactly alike on the upperside: some are quite dark brown, with the lines crossing the wings very indistinct; others are of a pale colour, with the brown lines sharply defined. The underside, on the contrary, exhibits very little variation. It is possible that one or the other of these forms may belong to the species described by Guenée.

### 4. *Oxydia vesulia*.

*Phalæna Geometra vesulia*, Cram. Pap. Exot. iii. p. 79, t. 240. ff. B, C<sup>1</sup>.

*Oxydia vesuliata*, Guen. Sp. gén. des Lép. ix. p. 60<sup>2</sup>.

*Oxydia vesulia*, Walk. Cat. xx. p. 53<sup>3</sup>; Mösehl. Verh. zool.-bot. Ges. Wien, 1881, p. 396<sup>4</sup>; Beitr. zur Schmett.-Fauna von Jamaica, p. 67<sup>5</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*); GUATEMALA, Coatepeque, Panzos (*Champion*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Bugaba 800 to 1500 feet, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—GUIANA, Surinam<sup>1 2 3</sup>, Cayenne<sup>2 3 7</sup>, Paramaribo<sup>4</sup>; ECUADOR; BRAZIL; ANTILLES, Jamaica<sup>5</sup>, Haiti.

This appears to be a common and widely distributed species in Tropical America. *O. vesulia* may be distinguished from all the allied forms by having the back of the head white.

### 5. *Oxydia vitiligata*.

*Oxydia vitiligata*, Feld. & Rogenh. Reise der Novara, Lep. t. 122. f. 17<sup>1</sup>.

*Hab.* MEXICO, Coatepec (*coll. Schaus; Brooks*), Cuesta de Misantla (*M. Trujillo*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, in the city (*Rodriguez*), San Gerónimo and Panima in Vera Paz (*Champion*); COSTA RICA (*Gabb, in mus. D.*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ECUADOR; BRAZIL<sup>1</sup>; PERU; PARAGUAY.

I believe this insect to be a well-marked dark form of *O. vesulia* (Cram.). It varies very considerably in size, colour, and markings. The males are always darker than the females. We have received a very large series of it from our region, and also from South America.



6. *Oxydia gastropachata*. (Tab. XLIII. fig. 10, ♀, var.)

*Oxydia gastropachata*, Guen. Sp. gén. des Lép. ix. p. 62<sup>1</sup>; Walk. Cat. xx. p. 55<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*Höge*; *coll. Schaus*), Coatepec (*coll. Schaus*); GUATEMALA, in the city (*Rodriguez*).—BRAZIL<sup>1 2</sup>.

Apparently a rare species. We figure a variety of the female from Mr. Schaus's collection.

7. *Oxydia aromata*, sp. n. (Tab. XLIII. fig. 11, ♀.)

*Female*. Primaries and secondaries pale cream-colour, each with a black dot at the end of the cell, and crossed beyond the middle by a narrow yellowish-brown line, which extends from the apex to the inner margin of the primaries, and is then continued across the secondaries to about the middle of the inner margin; the primaries with the base broadly banded with fawn-colour, the apex and the outer side of the line crossing the wing to the outer margin also fawn-colour, an indistinct row of cream-coloured patches extending from the apex to the anal angle, the last patch much larger than the others; the secondaries with the base irrorated with dark fawn-coloured scales, and with a rather large irregular black spot near the apex on the outer side of the line that crosses the wing, the wing itself on the outer side of the line clouded with fawn-colour near the anal angle, and with three distinct pale cream-coloured spots extending across it towards the apex; the fringe pale yellowish-brown; the underside with the markings very much as above, but slightly darker in colour: head, thorax, abdomen, and legs cream-colour, the antennæ yellowish-brown. Expanse 3½ inches.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*).

The single specimen from which the description is taken is so very distinct from all the forms of the allied species that I have ventured to name it; it is possible, however, that it may be only an extreme variety of *O. vesulia* (Cram.) or *O. gastropachata*, Guen.

8. *Oxydia trychiata*.

*Oxydia trychiata*, Guen. Sp. gén. des Lép. ix. p. 56<sup>1</sup>; Walk. Cat. xx. p. 51<sup>2</sup>.

*Chærodes translineata*, Walk. Cat. xx. p. 24<sup>3</sup>.

*Mucronodes mundipennata*, Walk. Cat. xx. p. 37<sup>4</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—VENEZUELA<sup>3</sup>; BRAZIL<sup>1 2 4</sup>.

9. *Oxydia platypterata*.

*Oxydia platypterata*, Guen. Sp. gén. des Lép. ix. p. 61, Phalén. t. 4. f. 3<sup>1</sup>; Walk. Cat. xx. p. 54<sup>2</sup>.

*Cratoptera recurvaria*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 65, 83, ff. 483, 484<sup>3</sup>.

*Cratoptera* (?) *recurvaria*, Walk. Cat. xxvi. p. 1494<sup>4</sup>.

? *Oxydia nattereri*, Feld. & Rogenh. Reise der Novara, Lep. t. 122. f. 16<sup>5</sup>.

*Hab.* MEXICO, Coatepec (*coll. Schaus*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—COLOMBIA, Antioquia; VENEZUELA<sup>3 4</sup>; BRAZIL<sup>1 2 5</sup>.

Some specimens of this insect are almost uniformly coloured, and others very much spotted. I have very little doubt that *O. platypterata*, Guen., and *O. nattereri*, Feld. & Rogenh., belong to one and the same species.

10. *Oxydia masthala*, sp. n. (Tab. XLIII. fig. 9, ♀.)

*Female*. Primaries and secondaries reddish-fawn-colour, each crossed by a dark blackish-brown line; the primaries with two yellowish-white spots on the outer side of the line, the apex and part of the costal margin irrorated with black scales; the secondaries crossed from near the apex to the inner margin slightly above the anal angle by two very indistinct, waved, greyish lines; the underside darker than above, thickly irrorated with black scales, and with a blackish-brown line crossing both wings; the fringe dark yellowish-brown: head, thorax, and abdomen fawn-colour; the antennæ pale yellowish-brown; the legs fawn-colour, irrorated with black scales. Expanse  $2\frac{1}{2}$  inches.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen. Allied to *O. platyptera*, Guen.; but differs from all the examples of that species I have seen in having a blackish line on the underside crossing both wings. It is possible, however, that this insect may prove to be an extreme form of *O. platyptera*.

11. *Oxydia medona*, sp. n. (Tab. XLIII. figg. 15, 16, ♀.)

*Female*. Primaries and secondaries yellowish-fawn-colour; the primaries with a greyish mark on the costal margin close to the apex, on the inner side of which is a small white spot, a minute black dot at the end of the cell, a dark waved line crossing from the costal to the inner margin between the small dot and the base, a dark brown line extending from near the apex to the middle of the inner margin, and a submarginal indistinct zigzag line crossing from the apex to the anal angle; the secondaries crossed from the middle of the costal margin to below the middle of the inner margin by a dark brown line, and with a small black dot at the end of the cell and a submarginal row of rather indistinct brownish points, the latter partly connected by faint lines; the fringe yellowish-fawn-colour, that on the inner margin of the secondaries white; the underside marked as above, but glossed with white, the submarginal lines more distinct and quite white: head, thorax, abdomen, antennæ, and legs fawn-colour. Expanse  $2\frac{1}{10}$  inches.

*Hab.* GUATEMALA, Volcan de Atitlan 2500 feet (*Champion*).

One female specimen. *O. medona* is very distinct from all the species of *Oxydia* known to me.

12. *Oxydia munda*.

*Oxydia munda*, Guen. Sp. gén. des Lép. ix. p. 57, Phalén. t. 10. f. 1<sup>1</sup>; Walk. Cat. xx. p. 51<sup>2</sup>.

*Hab.* PANAMA, Volcan de Chiriqui 2000 feet (*Champion*).—BRAZIL<sup>1 2</sup>.

One specimen from Chiriqui, very nearly agreeing with Guenée's figure.

13. *Oxydia artaxa*, sp. n. (Tab. XLIII. figg. 12, 13, ♂; 14, ♀.)

*Male*. Primaries pale olive-brown, shaded with darker brown at the apex and along the outer margin, a narrow black double line extending from the apex to the middle of the inner margin, where on the outer side a short curved black line joins it and encloses a pale-coloured somewhat rounded spot, the disc of the wing thickly irrorated with silky-white scales, a curved black line crossing from the costal to the inner margin nearest the base, the fringe brown; secondaries yellowish-olive-brown, irrorated with whitish scales near the apex and along part of the outer margin, and crossed in the middle by a very faint line, the fringe yellowish-brown; the underside of the primaries bright yellowish-fawn-colour, almost yellow near the apex, faintly streaked with fine brown lines, and crossed from the apex to the middle of the inner margin by a fine brown line, which is edged with white on the outer side—that of the secondaries paler in colour, clouded with brown near the apex, and crossed beyond the middle from the costal nearly to the outer margin, but not reaching it and here curved sharply inwards to the inner margin, by a



narrow brown line, which is edged with white on the outer side, a small black dot at the end of the cell, the fringe yellow: head and front of the thorax yellowish, the rest of the thorax, the abdomen, antennæ, and legs brownish-fawn-colour. The female is considerably larger and darker than the male, but has all the markings very similar on the underside; the colour is greyish-brown, and the lines crossing the wings are much fainter: the head, thorax, abdomen, antennæ, and legs are pale brown. Expanse, ♂  $2\frac{1}{3}$ , ♀ 3 inches.

*Hab.* MEXICO, Jalapa (*Höge*), Coatepec (*Brooks*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ECUADOR.

Five specimens, two males and three females. These only show a very slight variation in colour. We figure a male from the Volcan de Chiriqui and a female from Jalapa.

#### 14. *Oxydia augusta*, sp. n. (Tab. XLIII. figg. 17, 18, ♂.)

*Male.* Primaries and secondaries pale greyish-fawn-colour, thickly irrorated with brown scales; the primaries with three brown streaks crossing from the costal margin towards the outer margin, a zigzag brown line (curving inwards) crossing near the base from the costal to the inner margin, and a black line edged on the outer side with greyish-white extending from the apex to the middle of the inner margin, the wing on the outer side of the black line much clouded with reddish-brown; the secondaries partly crossed about the middle by a narrow black line and clouded on the outer side of this line with dark brown, a submarginal zigzag line extending from near the apex to the anal angle; the underside bright yellowish-fawn-colour, the primaries shaded with greyish-white near the apex, and crossed by a narrow brown line edged with greyish-white; the fringe yellow: head and front of the thorax yellowish-fawn-colour, the rest of the thorax, the abdomen, and legs pale fawn-colour, the antennæ brown. The female similar in colour to the male. Expanse, ♂ ♀,  $2\frac{3}{4}$  inches.

*Hab.* PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ECUADOR.

Mr. Champion captured three specimens of this species in Chiriqui, and I have a good series of it from Ecuador; these latter are slightly darker than the others.

### Subfam. ENNOMINÆ.

#### DREPANODES.

*Drepanodes*, Guenée, Sp. gén. des Lép. ix. p. 66 (1857); Walker, Cat. xx. p. 69; Packard, in

Report of the U.S. Geol. Survey of the Territ. x. p. 537, t. 6. fig. 11 (neuration) (1876).

*Syssaura*, Hübner, Verz. bek. Schmett. p. 150 (pars).

This genus contains numerous representatives, most of which are confined to Central or South America or the Antilles. Eleven species occur within our limits, four of which are described as new.

#### 1. *Drepanodes pionaria*.

*Drepanodes pionaria*, Walk. Cat. xx. p. 71<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*); GUATEMALA, Cerro Zunil 4000 to 5000 feet (*Champion*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—ANTILLES, Santo Domingo<sup>1</sup>.



The three female specimens before me are very similar in colour and markings; the one from Mexico in Mr. Schaus's collection is paler than the others and has the dusky lines across the wings less distinct; the one from Guatemala is considerably darker. The male is apparently unknown.

## 2. *Drepanodes moneta*, sp. n. (Tab. XLIV. fig. 2, ♀.)

*Female*. Primaries and secondaries pale brownish-fawn-colour; the primaries crossed from the apex to the inner margin by a narrow dark brown line, edged on the inner side with a very narrow silvery-white line, a curved dark fawn-coloured line near the base, a second line crossing the wing from the costal margin beyond the cell and joining the line extending from the apex to the inner margin beyond the middle, the apex and the outer margin thickly irrorated with black scales; the secondaries crossed about the middle by a continuation of the line on the primaries, and with a waved dark fawn-coloured submarginal line extending from the apex to the anal angle, and a black dot in the middle of the cell; the fringe reddish-brown; the underside pale yellowish-fawn-colour, thickly irrorated with small black spots, the outer margins of both wings broadly bordered with dark reddish-brown: head, antennæ, thorax, abdomen, and legs pale fawn-colour. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Coatepec (*coll. Schaus*).

Apparently allied to *D. pionaria*, Walk., but very distinct from it.

## 3. *Drepanodes falcularia*.

*Patalene falcularia*, Herr.-Schäff. Samml. aussereur. Schmett. p. 80, fig. 199<sup>1</sup>.

*Comibana falcularia*, Herr.-Schäff. loc. cit.<sup>2</sup>

*Drepanodes falcularia*, Guen. Sp. gén. des Léop. ix. p. 69<sup>3</sup>; Walk. Cat. xx. p. 77<sup>4</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Bugaba 800 to 1500 feet (*Champion*).—GUIANA, Surinam<sup>2 3 4</sup>.

This species varies very much on the upperside: in some specimens the line crossing both wings is dark brown, in others it is almost wanting; the yellowish-white spots near the anal angle of the primaries, as shown in Herrich-Schäffer's figure, are sometimes entirely obliterated or replaced by blackish patches or dots. The underside shows little variation.

## 4. *Drepanodes astanda*, sp. n. (Tab. XLIV. fig. 3.)

Primaries and secondaries orange-yellow; the primaries slightly clouded at the base with a darker colour, and with a black dot in the middle of the cell, and a faint reddish-brown line extending from the apex to the inner margin above the anal angle, the outer margin of the wing irrorated with silvery-white scales; the secondaries with a small black dot in the cell and two indistinct blackish-brown patches below the middle nearest the anal angle, the outer margin irrorated with silvery-white scales; the underside of both wings bright yellow, the outer margins broadly bordered with dark reddish-brown: head, thorax, antennæ, and legs pale yellow; (abdomen wanting). Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*).

One specimen. Allied to *D. falcularia*, Herr.-Schäff.

### 5. *Drepanodes drepanula*.

*Syssaurea drepanula*, Hübn. Zutr. Samml. exot. Schmett. ii. p. 13, figg. 247, 248<sup>1</sup>; Verz. bek.

Schmett. p. 150<sup>2</sup>.

*Drepanodes drepanularia*, Guen. Sp. gén. des Lép. ix. p. 71<sup>3</sup>.

*Drepanodes drepanula*, Walk. Cat. xx. p. 78<sup>4</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—ECUADOR; GUIANA, Surinam<sup>1 3 4</sup>.

Our specimens are almost identical with Hübner's figure.

### 6. *Drepanodes asina*, sp. n. (Tab. XLIV. fig. 4, ♂.)

*Male.* Primaries and secondaries uniformly pale reddish-fawn-colour, slightly darker round the outer margins, the fringe pale yellowish-fawn-colour, both wings crossed by a darker reddish-fawn-coloured line bordered on the outer side with a much paler fawn-coloured line; the underside very similar in colour to the upperside but slightly paler, the central line crossing the wings very indistinct: head, thorax, abdomen, antennæ, and legs pale fawn-colour. Expanse  $1\frac{1}{4}$  inch.

*Hab.* GUATEMALA, Calderas 7000 feet (*Champion*).

One specimen.

### 7. *Drepanodes impurpurata*.

*Drepanodes impurpurata*, Walk. Cat. xx. p. 80<sup>1</sup>.

*Hab.* PANAMA, Bugaba 800 to 1500 feet (*Champion*), Chiriqui (*Trötsch, in mus. Staudinger*).—VENEZUELA<sup>1</sup>.

Our specimens agree well with the type in the National Collection.

### 8. *Drepanodes* (?) *melina*, sp. n. (Tab. XLIV. fig. 5, ♀.)

Primaries and secondaries dark brown; the primaries crossed by two darker brown lines—the first near the base, the second extending from the apex to the middle of the inner margin, the latter bordered on the outer side with a rather wide greyish line which is widened towards the apex; the underside very similar to the upperside, but considerably paler, excepting round the outer margins: head, thorax, abdomen, antennæ, and legs dark brown. Expanse  $1\frac{2}{16}$  inch.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*), Paso de San Juan in Vera Cruz (*coll. Schaus*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

Our description and figure of this insect are taken from a Guatemalan example. I include this species in the genus *Drepanodes* with considerable doubt, all the specimens before me being females. The example from Presidio is paler than any of the others, and has the lines crossing the wings much more distinct.

### 9. *Drepanodes vehemensaria*.

*Drepanodes vehemensaria*, H. Edwards, Papilio, iv. p. 19<sup>1</sup>.

*Hab.* MEXICO, State of Vera Cruz (*Schaus*<sup>1</sup>).



### 10. *Drepanodes panamaria*.

*Drepanodes panamaria*, Packard, Proc. Bost. Soc. Nat. Hist. xvi. p. 39 (1874)<sup>1</sup>. (Reprinted in Report of the U.S. Geol. Survey of the Territ. x. p. 541, nota.)

*Hab.* PANAMA (*Edwards*<sup>1</sup>).

Both this and the preceding species are unknown to me.

### 11. *Drepanodes depranaria*?

*Drepanodes depranaria*, Möschl. Verh. zool.-bot. Ges. Wien, xxxi. p. 397, t. 17. fig. 5 (1881)<sup>1</sup> (Beitr. zur Schmett.-Fauna von Surinam, iv. p. 7, t. 17. fig. 5).

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*).—GUIANA, Paramaribo<sup>1 2</sup>.

Möschler's description was taken from a female specimen, the one captured by Mr. Schaus being a male; but I feel very little doubt that they belong to one and the same species.

## FALCINODES.

*Falcinodes*, Guenée, Sp. gén. des Lép. x. p. 33 (1857).

*Halesa*, Walker, Cat. xx. p. 211 (1860).

The genus *Falcinodes* was founded by Guenée upon a single species (*F. corvinaria*) from Cayenne, the female only of which was known to him; the type (♂) of *Halesa*, Walk. (*H. asychisaria*), was from Brazil. Additional species from Tropical America have since been described by Butler and Snellen.

### 1. *Falcinodes asychisaria*.

*Halesa asychisaria*, Walk. Cat. xx. p. 211<sup>1</sup>; Butler, Trans. Ent. Soc. Lond. 1881, p. 318<sup>2</sup>.

*Falcinodes gonodontaria*, Snellen, Tijdschr. voor Ent. xvii. p. 61, t. 4. fig. 11<sup>3</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*); BRITISH HONDURAS, R. Sarstoon (*Blancaneaux*); GUATEMALA, in the city (*Rodriguez*), San Gerónimo (*Champion*).—COLOMBIA, Rio Magdalena<sup>3</sup>; AMAZONS<sup>2</sup>; BRAZIL<sup>1</sup>.

The single specimen from Mexico is paler in colour than any of the others. The species is well figured by Snellen<sup>3</sup>.

### 2. *Falcinodes suggillaria*?

*Falcinodes suggillaria*, Snellen, Tijdschr. voor Ent. xvii. p. 63, t. 5. fig. 1<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*).—COLOMBIA, Rio Magdalena<sup>1</sup>.

The single male specimen from Mexico in Mr. Schaus's collection is rather darker than Snellen's figure, and has a much darker patch on the secondaries near the anal angle; but it probably belongs to the same species. The female is altogether more heavily marked than the male.



### 3. *Falcinodes glauca*.

*Halesa glauca*, Butler, Trans. Ent. Soc. Lond. 1881, p. 319<sup>1</sup>.

*Hab.* MEXICO, Coatepec (*coll. Schaus*).—ECUADOR; AMAZONS<sup>1</sup>; PERU.

## PYRINIA.

*Pyrinia*, Hübner, Verz. bek. Schmett. p. 294 (1816); Walker, Cat. xx. p. 82.

*Crocopteryx*, Guenée, Sp. gén. des Lép. ix. p. 72 (1857).

Fourteen species were included in this genus by Guenée, and others have since been added by Walker and Felder. *Pyrinia* is chiefly confined to Tropical America.

### 1. *Pyrinia optivata*.

*Crocopteryx optivata*, Guen. Sp. gén. des Lép. ix. p. 72 (♀)<sup>1</sup>.

*Pyrinia optivata*, Walk. Cat. xx. p. 84<sup>2</sup>; Butl. Trans. Ent. Soc. Lond. 1881, p. 318<sup>3</sup>.

*Melinodes* (?) *amphisaria*, Walk. Cat. xx. p. 113 (♂)<sup>4</sup>.

*Hab.* PANAMA, Bugaba 1000 feet, Volcan de Chiriqui 3000 feet (*Champion*).—AMAZONS<sup>3</sup>, Ega<sup>4</sup>; BRAZIL<sup>1 2</sup>.

Two males from Chiriqui, almost identical with a specimen, which I believe is Guenée's type, in the National Collection.

### 2. *Pyrinia helvaria*.

*Acroleuca helvaria*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 63, 80, fig. 201<sup>1</sup>.

*Crocopteryx helvaria*, Guen. Sp. gén. des Lép. ix. p. 75<sup>2</sup>.

*Pyrinia helvaria*, Walk. Cat. xx. p. 86<sup>3</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—GUIANA, Surinam<sup>1 2 3</sup>; ECUADOR.

A female specimen from Chiriqui in Dr. Staudinger's collection merely differs from Herrich-Schäffer's figure in having the outer margins of the primaries paler.

### 3. *Pyrinia sterrhata*.

*Crocopteryx sterrhata*, Guen. Sp. gén. des Lép. ix. p. 75 (♂)<sup>1</sup>.

*Pyrinia sterrhata*, Walk. Cat. xx. p. 86<sup>2</sup>.

*Pyrinia incensata*, Walk. Cat. xxvi. p. 1492<sup>3</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger; Ribbe*), Bugaba 800 to 1500 feet (*Champion*).—AMAZONS, Pará<sup>3</sup>; BRAZIL<sup>1 2</sup>.

A small species, of which we have only received females.

### 4. *Pyrinia arxata*, sp. n. (Tab. XLIV. figg. 6, 7, ♂.)

*Male.* Primaries and secondaries dark orange-brown; the primaries crossed near the base from the costal to the inner margin by a fine dark >-shaped brown line, beyond which a dark brown line extends from the apex to about the middle of the inner margin; the secondaries crossed from the costal to the inner margin by two dark brown lines—the first about the middle, the second submarginal; underside pale yellowish-

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brown, thickly irrorated with dark orange-brown scales, with lines crossing the wings as above, but more distinct: head, thorax, abdomen, and antennae dark orange-brown, pale yellowish-brown beneath, the anus and legs yellowish-brown. Expanse  $\frac{9}{10}$  inch.

*Hab.* PANAMA, Chiriqui (*Arcé, in mus. D.*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

The sexes of this species are very similar; the only specimen of the female that I have seen was collected by Arcé. Allied to *P. sterrhata*, Guen.

### 5. *Pyrinia solata*.

*Crocapteryx solata*, Guen. Sp. gén. des Lép. ix. p. 75 (♂)<sup>1</sup>.

*Pyrinia solata*, Walk. Cat. xx. p. 86<sup>2</sup>.

*Pyrinia prusiasaria*, Walk. Cat. xx. pp. 90, 228<sup>3</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—ECUADOR; BRAZIL<sup>1 2</sup>, Rio Janeiro<sup>3</sup>.

The specimen from Chiriqui in Dr. Staudinger's collection is paler in colour than either of those (from Brazil) in the British Museum.

### 6. *Pyrinia rutilaria*.

*Pyrinia rutilaria*, Hübn. Zutr. Samml. exot. Schmett. i. p. 29, figg. 173, 174<sup>1</sup>, and Verz. bek.

Schmett. p. 294<sup>2</sup>; Walk. Cat. xx. p. 87<sup>2</sup>.

*Crocapteryx rutilaria*, Guen. Sp. gén. des Lép. ix. p. 76<sup>3</sup>.

*Hab.* PANAMA, Bugaba 1000 feet (*Champion*).—GUIANA, Surinam<sup>1 2 3</sup>.

One specimen from Bugaba, almost identical with Hübner's figure.

### 7. *Pyrinia megara*, sp. n. (Tab. XLIV. figg. 8, 9, ♂.)

*Male.* Primaries and secondaries dark brown, both wings crossed about the middle by a very indistinct darker brown line; underside yellowish-brown, with the costal margin of the primaries paler, and the apex reddish-brown, the secondaries crossed about the middle from the costal to the inner margin by a reddish-brown line: head, thorax, and abdomen dark brown, the underside and legs yellowish-brown; antennae dark brown. Expanse 1 inch.

*Hab.* GUATEMALA, Zapote (*Champion*); PANAMA, Chiriqui (*Arcé, in mus. D.*).

The Chiriqui specimen is paler in colour than the one from Guatemala, and shows the lines crossing the wings more distinctly. The Guatemalan example is figured.

## CRATOPTERA.

*Cratoptera*, Herrich-Schäffer, Samml. aussereur. Schmett. pp. 44, 65 (1850-58); Guenée, Sp. gén. des Lép. ix. p. 76 (1857).

*Cratoptera* contains a few species from Tropical America. Four are here recorded from within our limits, three of which are described as new.

### 1. *Cratoptera arvina*, sp. n. (Tab. XLIV. fig. 10, ♀.)

*Female.* Primaries and secondaries pale grey with a slight yellowish tinge, irrorated with very minute black



dots, a small black dot at the end of the cell of both wings, and a very faint brown spot on the costal margin just before the apex; the underside coloured as above: head, thorax, abdomen, antennæ, and legs pale grey. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*), Paso de San Juan in Vera Cruz (*coll. Schaus*).

Mr. Schaus's specimens are rather more distinctly marked than ours; a worn male in his collection has the dark mark on the costal margin of the primaries very much more distinct, and is more shaded with yellow at the anal angle, and partly round the outer margin of the secondaries. We figure a female from Presidio de Mazatlan.

## 2. *Cratoptera mena*, sp. n. (Tab. XLIV. fig. 11, ♀.)

*Female.* Primaries and secondaries greyish-mouse-colour, the primaries shaded with dark brown at the apex, and with a dark brown line crossing from the apex to the inner margin close to the base, this line continuing across the secondaries to the inner margin, both wings with a submarginal waved pale line with dark spots, the fringe dark brown; the underside pale mouse-colour, without markings: head, thorax, abdomen, legs, and antennæ pale mouse-colour. Expanse  $1\frac{3}{4}$  inch.

*Hab.* PANAMA, Bugaba 1000 feet (*Champion*).

One specimen. This insect is allied to *C. retectaria*, Feld. & Rogenh., from which it may be at once distinguished by its darker colour and the waved submarginal line to both wings. It also approaches an undescribed species from Ecuador in my own collection.

## 3. *Cratoptera atina*, sp. n. (Tab. XLIV. figg. 12, 13, ♀.)

*Female.* Primaries reddish-brown, crossed in the middle by a wide greenish-brown band, edged on the outer side with a silvery-grey line and on the inner side with a similarly-coloured much dentated line, the latter extending from the costal to the inner margin, a submarginal row of dark brown spots with silvery-grey points extending from the apex to the anal angle, and a small black dot at the end of the cell, the marginal line grey, the fringe dark reddish-brown; secondaries reddish-brown, with the base greenish-brown, a greyish line crossing the wing above the middle from the costal to the inner margin, the fringe dark reddish-brown; underside bright orange-yellow, the primaries slightly irrorated with brown scales, and with a dark brown narrow line crossing from the apex to about the middle of the inner margin, the apex with two or three small patches of white scales close to the costal margin, a submarginal row of dark brown spots extending from just below the apex to the anal angle, the secondaries with a few very minute dark brown dots close to the anal angle: head, thorax, abdomen, and legs dark reddish-brown above, bright orange-yellow beneath; antennæ dark brown. Expanse  $1\frac{6}{10}$  inch.

*Hab.* COSTA RICA, Caché (*Rogers*).

One specimen.

## 4. *Cratoptera retectaria*.

*Cratoptera retectaria*, Feld. & Rogenh. Reise der Novara, Lep. t. 133. fig. 17 (♂)<sup>1</sup>.

*Hab.* GUATEMALA, San Gerónimo (*Champion*).—AMAZONS<sup>1</sup>.

A worn female specimen from Guatemala agrees fairly well with Felder and Rogenhofer's figure, and also with male examples from the Amazons in my own collection.

*ff*<sup>2</sup>



## GYNOPTERYX.

*Gynopteryx*, Guenée, Sp. gén. des Lép. ix. p. 78 (1857) ; Walker, Cat. xx. p. 92.

*Gynopteryx* contains numerous species, and it seems to be confined to Tropical America. Many of Walker's so-called species will not stand, as they are mostly forms of two or three variable insects.

1. *Gynopteryx fundaria*.

♂. *Apicia fundaria*, Guen. Sp. gén. des Lép. ix. p. 87<sup>1</sup> ; Walk. Cat. xx. p. 108<sup>2</sup>.

♂. *Apicia impezaria*, Guen. loc. cit. p. 88<sup>3</sup> ; Walk. Cat. xx. p. 109<sup>4</sup>.

♀. *Apicia juncturaria*, Guen. loc. cit. p. 88<sup>5</sup> ; Walk. Cat. xx. p. 102<sup>6</sup>.

♀. *Gynopteryx thasusaria*, Walk. Cat. xx. p. 94<sup>7</sup>.

♂. *Apicia arbuaria*, Walk. Cat. xx. p. 102<sup>8</sup>.

♂. *Caberodes* (?) *eldanaria*, Walk. Cat. xx. p. 170<sup>9</sup>.

♂. *Caberodes* (?) *carcearia*, Walk. Cat. xx. p. 171<sup>10</sup>.

♀. *Caberodes basifusata*, Walk. Cat. xxvi. p. 1512<sup>11</sup>.

*Hab.* MEXICO<sup>8 11</sup>, Durango (*Forrer*), Jalapa, Coatepec (*coll. Schaus*), Cordova (*Rümeli*), Atoyac in Vera Cruz (*H. H. Smith*), Omealca (*M. Trujillo*), Tierra Colorada in Guerrero 2000 feet (*H. H. Smith*) ; GUATEMALA, in the city (*Rodriguez*), Balheu. Panima, San Juan, and San Gerónimo in Vera Paz, Volcan de Atitlan 2500 to 3500 feet, Zapote, Dueñas (*Champion*) ; COSTA RICA (*Gabb, in mus. D.*), Volcan de Irazu 6000 to 7000 feet (*Rogers*) ; PANAMA, Chiriqui (*Arcé, in mus. D. ; Trötsch and Ribbe in mus. Staudinger*), Bugaba, Volcan de Chiriqui 2000 to 3000 feet, Caldera (*Champion*).—COLOMBIA<sup>3 4</sup>, Bogota<sup>9</sup>, Antioquia ; GUIANA ; VENEZUELA<sup>7</sup> ; ECUADOR ; PERU ; BRAZIL<sup>1 2</sup>, Rio Janeiro<sup>7 10</sup>.

This insect is exceedingly common throughout Tropical America. It varies to any extent, from bright yellow to brownish-fawn-colour, and has been described under a considerable number of names, the sexes always as distinct species. With a series of over three hundred specimens before me, I am quite unable to separate any of the seven so-called species quoted above from *G. fundaria*, examples from the same locality completely running one into the other. I have only placed those together of which I have seen the types, or have specimens which have been named from the types ; but there can be very little doubt that several others described by Walker will prove to be inseparable from *G. fundaria* (Guen.). The locality for *Apicia juncturaria* is given by Guenée<sup>5</sup> as North America ? or Brazil ?

2. *Gynopteryx* — ?

*Hab.* MEXICO, Coatepec (*coll. Schaus*).

One worn specimen, a female, apparently distinct from the other species of *Gynopteryx* here enumerated.

### 3. *Gynopteryx asopia*, sp. n. (Tab. XLIV. fig. 14, ♂.)

*Male*. Primaries and secondaries very pale fawn-colour, the primaries slightly darker at the base, both wings crossed beyond the middle by a narrow brown line, and with a black dot at the end of the cell, their outer margins broadly clouded with dark brown; the underside very similar in colour, but without a line crossing the wings: head, thorax, and abdomen pale fawn-colour, the antennæ brown. The female more dusky in colour than the male. Expanse  $1\frac{1}{4}$  inch.

*Hab*. MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*); GUATEMALA, El Tumbador 2500 feet, Las Mercedes 3000 feet, Zapote (*Champion*).—PERU.

Mexican specimens are rather smaller and paler than those from Guatemala. Our description and figure are taken from Zapote examples. The female is unknown to me.

### 4. *Gynopteryx mynes*, sp. n. (Tab. XLIV. fig. 15, ♂.)

*Male*. Primaries and secondaries pale brownish-white, thickly irrorated with pale brown scales, both wings crossed beyond the middle by a waved dark brown line edged on the outer side with white, and with a black dot at the end of the cell; the primaries also with two indistinct curved pale brown lines crossing from the costal to the inner margin—the first near the base, the second between the cell and the dark brown line,—and on the outer side of the dark brown line a row of brownish-black spots—the first three small and distinct, the fourth larger and suffused; the marginal line of both wings pale brown and the fringe pale greyish-brown; the underside very similarly coloured, but more irrorated with brown scales. Expanse  $1\frac{1}{2}$  inch.

*Hab*. MEXICO, Cuernavaca in Morelos (*H. H. Smith*).

Two specimens, both males.

### 5. *Gynopteryx megasa*, sp. n. (Tab. XLIV. fig. 16, ♂.)

*Male*. Primaries and secondaries pale greyish-brown, both wings crossed by a pale yellow line edged on the inner side with reddish-brown, a rather large <-shaped mark near the base of the primaries, the marginal line of both wings reddish-brown, and the fringe greyish-brown; the underside pale yellowish-grey, very thickly irrorated with brown scales, the lines as above, but not nearly so distinct: head, thorax, abdomen, antennæ, and legs greyish-brown, the anal tuft slightly yellowish. Expanse  $1\frac{1}{2}$  inch.

*Hab*. MEXICO, Amula in Guerrero 6000 feet, Cuernavaca in Morelos (*H. H. Smith*).

Two examples. *G. megasa* is allied to *G. fundaria* (Guen.), from which it may be at once distinguished by the lines crossing the wings on the underside. The specimen from Cuernavaca is slightly paler than the one from Amula, from which the description is taken.

### 6. *Gynopteryx minoa*, sp. n. (Tab. XLIV. fig. 17, ♂.)

*Male*. Primaries and secondaries pale reddish-fawn-colour, darker round the outer margins; a narrow reddish-brown line edged on the inner side with pale yellowish-brown extending from the apex of the primaries to the inner margin of the secondaries, a minute black dot at the end of the cell on both wings; the underside very much as above, but paler in colour: head, thorax, abdomen, and legs pale fawn-colour, the antennæ pale brown. The female very like the male, but slightly irrorated with brown scales. Expanse, ♂ ♀,  $1\frac{1}{4}$  inch.

*Hab*. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

One pair.



### 7. *Gynopteryx asteria*, sp. n. (Tab. XLIV. figg. 18, ♂; 19, ♀.)

*Male*. Primaries and secondaries pale yellow; the primaries crossed from the costal margin near the base to the inner margin by a faint curved brownish line, and with a dark yellow line edged with white on the outer side extending from the apex to the inner margin, the outer margin broadly bordered with brown, a minute black spot at the end of the cell; the secondaries crossed about the middle from the costal to the inner margin by a yellow line edged with white, and with three or four very indistinct brown submarginal dots near the anal angle; the underside rather paler in colour: head, thorax, and antennæ pale brown, the tegulæ yellow, the abdomen and legs brownish-yellow. The female of a darker yellow colour than the male, with the outer border of the primaries considerably paler and with some indistinct greyish spots. Expanse, ♂  $1\frac{1}{2}$ , ♀  $1\frac{6}{10}$  inch.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*); GUATEMALA, Zapote, Cubulco, San Gerónimo (*Champion*).

Mr. Schaus informs us that this species is common in Eastern Mexico. Our description and figures are taken from San Gerónimo specimens.

## APICIA.

*Apicia*, Guenée, Sp. gén. des Lép. ix. p. 81 (1857) (pars); Walker, Cat. xx. p. 101.

This genus is represented in our region by a considerable number of species, some of them showing great variation in colour. Like many of the allied genera, *Apicia* appears to be confined to Tropical America.

### 1. *Apicia alteraria*.

*Apicia alteraria*, Guen. Sp. gén. des Lép. ix. p. 83 (♂ ♀)<sup>1</sup>; Walk. Cat. xx. p. 104<sup>2</sup>.

*Caberodes claridiscata*, Walk. Cat. xxvi. p. 1514 (♂)<sup>3</sup>.

*Hab.* MEXICO, Coatepec (*coll. Schaus*), Teapa in Tabasco (*H. H. Smith*); NICARAGUA, Chontales (*Janson*); COSTA RICA, Caché (*Rogers*); PANAMA, Bugaba (*Champion*), Chiriqui (*Arcé, in mus. D.*), Volcan de Chiriqui (*Trötsch, in mus. Staudinger*), Panama city (*J. J. Walker*).—VENEZUELA<sup>3</sup>; GUIANA, Cayenne<sup>1 2</sup>.

Varies in colour and in the distinctness of the dark markings, these being almost obliterated in some specimens.

### 2. *Apicia distycharia*.

*Apicia distycharia*, Guen. Sp. gén. des Lép. ix. p. 83 (♂)<sup>1</sup>; Walk. Cat. xx. p. 104<sup>2</sup>.

*Hab.* MEXICO, Atoyac in Vera Cruz (*H. H. Smith*); PANAMA, Bugaba 800 to 1500 feet, Volcan de Chiriqui 2000 to 4000 feet (*Champion*), Chiriqui (*Trötsch, in mus. Staudinger*).—GUIANA, Cayenne<sup>1 2</sup>.

This insect is closely allied to *A. alteraria*, Guen.

### 3. *Apicia quartaria*.

*Apicia quartaria*, Guen. Sp. gén. des Lép. ix. p. 83 (♀)<sup>1</sup>; Walk. Cat. xx. p. 105<sup>2</sup>.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*), Paso de San Juan in Vera Cruz (*coll.*



*Schaus*), Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); PANAMA (*Ribbe, in mus. Staudinger*).—BRAZIL<sup>1 2</sup>.

Mr. Herbert Smith captured a good series of specimens of this species in Eastern Mexico, during the months of March, April, and May 1888.

4. *Apicia medusa*, sp. n. (Tab. XLIV. fig. 20, ♀.)

*Female*. Primaries and secondaries pale citron-yellow, thickly irrorated with small brown spots, the primaries crossed from the apex to the inner margin by a narrow faint brown line (which is more distinct in some specimens than in others) and with the outer margin slightly shaded with brown, the fringe pale yellow; the underside very much as above: head, thorax, antennæ, legs, and abdomen yellow shaded with pale brown. Expanse  $1\frac{1}{4}$  inch.

*Hab.* HONDURAS, Ruatan Island (*Gaumer*).

Three specimens, all females.

5. *Apicia atilla*, sp. n. (Tab. XLIV. fig. 21, ♂.)

*Male*. Primaries dark brown, crossed from the apex to the inner margin by a rather wide cream-coloured line, which is edged on the inner side with reddish-brown, and with a <-shaped line close to the base extending from the costal to the inner margin, the fringe dark brown; secondaries paler brown, almost cream-colour on the costal margin, with a cream-coloured line partly crossing from the inner margin about the middle but not reaching the costal margin, the fringe silky-brown; the underside pale brown with a yellowish tinge, thickly irrorated with brown scales, the outer margins bordered with darker brown: head, thorax, abdomen, antennæ, and legs brown. Expanse  $1\frac{2}{10}$  inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

One specimen.

6. *Apicia mesada*, sp. n. (Tab. XLIV. fig. 22, ♂.)

*Male*. Primaries and secondaries very pale brownish-white, irrorated with minute brown scales, both wings crossed by a narrow brown line, that on the primaries extending from the apex to the inner margin, the primaries with four black spots on the outer side of the line close to the apex, and a black dot at the end of the cell, from which a very faint brown line crosses the wing to the inner margin, the fringe brown; the underside coloured as above, but with the lines very indistinct: head, thorax, abdomen, and legs pale brownish-white, the antennæ brown. Expanse 1 inch.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*).

One specimen.

7. *Apicia melenda*, sp. n. (Tab. XLIV. figg. 23, ♂; 24, ♀.)

*Male*. Primaries creamy-white, irrorated with brown scales, the base and outer margin broadly bordered with dark brown, a narrow brown line crossing the wing from the costal to the inner margin: secondaries creamy-white to beyond the middle, thickly mottled with pale brown, a narrow brown line crossing beyond the middle from the costal to the inner margin, the outer margin broadly bordered with brown; the underside very much as above, but considerably paler in colour: head, thorax, abdomen, antennæ, and legs pale brown. The female differs from the male in not having dark margins to the wings, which are thickly irrorated all over with very fine brown lines and scales; the underside is coloured nearly as above. Expanse, ♂  $1\frac{2}{10}$ , ♀  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Jalisco (*Schumann*), Dos Arroyos in Guerrero 1000 feet, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*), Coatepec (*Brooks*), Paso de San

Juan in Vera Cruz (*coll. Schaus*); GUATEMALA (*Conradt, in mus. Staudinger*), San Juan, Senahu, and San Gerónimo in Vera Paz, Zapote (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Bugaba 800 to 1500 feet (*Champion*).

Apparently a very common insect throughout our region. It varies exceedingly in both sexes, from creamy-white to dark brown, but in no one locality is it at all constant. Our description and figures are taken from Guatemalan specimens, these belonging to the form of which we have the largest number of examples. A female from Bugaba differs from the others in its very dark brown colour; it may prove to be specifically distinct.

We figure a pair from Zapote.

8. **Apicia aurana**, sp. n. (Tab. XLIV. fig. 25, ♂.)

*Male*. Primaries and secondaries very pale yellow, thickly irrorated and streaked with fine brown lines and spots, both wings with a black dot at the end of the cell and the outer margin very broadly bordered with purplish-brown, the inner side of the marginal band very much dentated, the fringe purplish-brown; the underside very much as above: head, thorax, and abdomen pale yellow, the legs yellow, the antennæ brown. Expanse  $1\frac{2}{16}$  inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

Three specimens.

9. **Apicia micca**, sp. n. (Tab. XLIV. fig. 26, ♂.)

*Male*. Primaries and secondaries greyish-fawn-colour, the primaries crossed from the costal to the inner margin by two fine brown lines, which are edged with pale yellow—the first >-shaped, near the base, the second beyond the middle,—and with a small black dot at the end of the cell, the secondaries crossed about the middle by a narrow brown line, the fringe greyish; the underside coloured as above, but entirely without markings: head, thorax, abdomen, antennæ, and legs greyish-fawn-colour. Expanse  $1\frac{1}{16}$  inch.

*Hab.* MEXICO, La Venta in Guerrero 300 feet (*H. H. Smith*).

One specimen.

10. **Apicia atia**, sp. n. (Tab. XLIV. fig. 27, ♂.)

*Male*. Primaries and secondaries very pale fawn-colour, both wings crossed beyond the middle by a waved narrow brown line and with a dark brown dot at the end of the cell, the marginal line dark brown, the fringe pale fawn-colour; the underside as above, but very much paler in colour: head, thorax, abdomen, and legs pale fawn-colour, the antennæ darker. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Cuernavaca in Morelos, Teapa in Tabasco (*H. H. Smith*).

Two specimens, that from Cuernavaca being much paler than the other. The one from Teapa is figured.

11. **Apicia mera**, sp. n. (Tab. XLIV. figg. 28, ♂; 29, ♀.)

*Male*. Primaries and secondaries pale orange-yellow, thickly streaked with very narrow pale brown lines; the primaries crossed from the costal to the inner margin by two pale brown narrow lines—the first waved



and near the base, the second beyond the middle,—and with a black dot at the end of the cell and a submarginal row of very indistinct brownish-yellow spots; the secondaries crossed about the middle from the costal to the inner margin by a fine brown line, and with a submarginal row of very indistinct spots extending from the apex to the anal angle; the underside very pale yellow, with the lines indistinct: head, thorax, and abdomen yellow, the antennæ and legs brownish-yellow. The female orange-yellow, very heavily blotched and irrorated with pale reddish-fawn-colour, and the underside more distinctly marked than in the male. Expanse, ♂  $1\frac{2}{10}$ , ♀  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Jalapa (*coll. Schaus*); GUATEMALA, Las Mercedes 3000 feet, San Isidro 1600 feet, Zapote, San Gerónimo, San Joaquin (*Champion*); PANAMA, Chiriqui (*Ribbe*), Bugaba 800 to 1500 feet, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

This species varies very considerably, not only in colour, but in the distinctness of the markings, some specimens being almost clear yellow, with only the lines crossing the wings.

We figure a pair from Las Mercedes.

## 12. *Apicia triflaria*.

*Microsema triflaria*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 43, 64, 82, fig. 337 (♂)<sup>1</sup>.

*Apicia triflaria*, Guen. Sp. gén. des Léop. ix. p. 85 (♂)<sup>2</sup>; Walk. Cat. xx. p. 106<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Coatepec, Paso de San Juan in Vera Cruz (*coll. Schaus*), Vera Cruz, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Panima, Senahu, Cahabon, and San Gerónimo in Vera Paz, Coatepeque, Las Mercedes, San Isidro, Volcan de Atitlan, Zapote (*Champion*); COSTA RICA, Volcan de Irazu, Rio Sucio, Caché (*Rogers*); PANAMA, Chiriqui (*Arcé, in mus. D.; Ribbe and Trötsch, in mus. Staudinger*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—COLOMBIA<sup>2 3</sup>; ECUADOR; PERU; BRAZIL, Rio Janeiro<sup>1 3</sup>.

A common and very variable species. We have received a large series of specimens, many of which are almost identical with Herrich-Schäffer's figure; others are fawn-colour, with the lines broader and darker. It is quite possible that *Microgonia polygrapharia*, Herr.-Schäff., from Brazil, is only a variety of this species; many of our specimens of the latter are darker than it, but they have no white line crossing the wings.

## 13. *Apicia aurelia*, sp. n. (Tab. XLV. fig. 1, ♀.)

*Female.* Primaries and secondaries pale sandy-brown, considerably darker round the outer portion, both wings crossed beyond the middle by a narrow brown line, which is edged with paler colour on the outer side, and with two black dots at the end of the cell; the secondaries with a small brownish-black spot on the inner margin just above the anal angle, the fringe sandy-brown; the underside considerably paler than above, with the lines broken up into a row of very minute spots: head, thorax, abdomen, legs, and antennæ pale sandy-brown. Expanse  $1\frac{2}{10}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

Allied to *A. triflaria* (Herr.-Schäff.). One specimen.



14. **Apicia megania**, sp. n. (Tab. XLV. fig. 2, ♂.)

*Male*. Primaries and secondaries pale brown, slightly irrorated with very indistinct darker brown scales, the primaries with a greyish spot on the costal margin close to the apex, both wings with a marginal row of very minute indistinct dark brown spots; the underside very much paler than above: head, thorax, abdomen, and legs pale brown, the antennæ darker. Expanse  $1\frac{2}{16}$  inch.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen.

MELINOIDES.

*Melinoides*, Herrich-Schäffer, Samml. aussereur. Schmett. p. 44 (1850-58).

*Melinodes*, Guenée, Sp. gén. des Lép. ix. p. 90; Walker, Cat. xx. p. 113 (pars).

A single species only was included in this genus by Herrich-Schäffer and Guenée; this insect extends northward into our region. *Melinodes amphisaria*, Walk., as already noted (*antea*, p. 33), is a *Pyrinia*.

1. **Melinoides deterrentia**.

*Melinoides deterrentia*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 44, 64, fig. 312 (♂)<sup>1</sup>.

*Melinodes deterrentia*, Guen. Sp. gén. des Lép. ix. p. 90<sup>2</sup>; Walk. Cat. xx. p. 113<sup>3</sup>.

*Hab.* GUATEMALA, Las Mercedes 3000 feet, Volcan de Atitlan 2500 to 3500 feet, San Gerónimo (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA<sup>1 2 3</sup>.

SYNNOMOS.

*Synnomos*, Guenée, Sp. gén. des Lép. ix. p. 94 (1857); Walker, Cat. xx. p. 117.

This genus was based upon a single species, the female only of which was known to its author.

1. **Synnomos firmamentaria**.

*Synnomos firmamentaria*, Guen. Sp. gén. des Lép. ix. p. 94 (♀)<sup>1</sup>; Walk. Cat. xx. p. 117<sup>2</sup>.

*Hab.* MEXICO<sup>2</sup>, Cordova<sup>1</sup>.

Unknown to me.

NEMATOCAMPA.

*Nematocampa*, Guenée, Sp. gén. des Lép. ix. p. 120 (1857); Walker, Cat. xx. p. 147; Packard, in Report of the U.S. Geol. Survey of the Territ. x. p. 470, t. 5. fig. 10 (neurulation) (1876).

1. **Nematocampa filamentaria**.

*Nematocampa filamentaria*, Guen. Sp. gén. des Lép. ix. p. 121, t. 5. fig. 1, and t. 2. fig. 3 (larva)

Pack. Guide to the Study of Insects, p. 320, t. 8. figg. 7, 7a (1869)<sup>2</sup>, and in Report of the U.S.

Geol. Survey of the Territ. x. p. 471, t. 11. fig. 46, and t. 13. figg. 8, 8a (larva and pupa)<sup>3</sup>.

*Microgonia vestitaria*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 63, 82, fig. 368<sup>4</sup>.

*Microgonia resistaria*, Herr.-Schäff. loc. cit. p. 41<sup>5</sup>.

*Nematocampa resistaria*, Walk. Cat. xx. p. 147<sup>6</sup>.

*Nematocampa expunctaria*, Grote, Canad. Nat. iv. p. 101<sup>7</sup>.

*Hab.* NORTH AMERICA<sup>1 2 3 6 7</sup>.—MEXICO, Atoyac in Vera Cruz (*Schumann*), Jalapa (*coll. Schaus*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*).—BRAZIL<sup>4 6</sup>.

Varies considerably in colour and size. Mexican specimens are rather more highly coloured than those from North America in my own collection.

## 2. *Nematocampa reticulata*.

*Nematocampa reticulata*, Bntl. Trans. Ent. Soc. Lond. 1881, p. 323<sup>1</sup>.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*), Coatepec (*coll. Schaus*), Teapa in Tabasco (*H. H. Smith*).—AMAZONS<sup>1</sup>; BRAZIL, Rio Janeiro.

This species is altogether larger than *N. filamentaria*, and has the wings more angular in shape. Mexican specimens agree well with the type.

## HETEROLOCHA.

*Heterolocha*, Lederer, Verh. zool.-bot. Ges. Wien, iii. p. 207 (1853); Guenée, Sp. gén. des Lép. ix. p. 105; Walker, Cat. xx. p. 135; Snellen, Tijdschr. voor Ent. xvii. p. 22.

### 1. *Heterolocha apricaria*.

*Metrocampa apricaria*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 63, 82, fig. 363 (♀)<sup>1</sup>.

*Heterolocha apricaria*, Guen. Sp. gén. des Lép. ix. p. 108<sup>2</sup>; Walker, Cat. xx. p. 136<sup>3</sup>; Snellen, Tijdschr. voor Ent. xvii. p. 23<sup>4</sup>.

*Hab.* MEXICO, Durango city (*Becker*), Jalapa, Coatepec (*coll. Schaus*); GUATEMALA, San Gerónimo and Sinanja in Vera Paz, Las Mercedes 3000 feet (*Champion*); COSTA RICA, Volcan de Izaru 6000 to 7000 feet, San Francisco 4500 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA<sup>4</sup>; VENEZUELA<sup>1 2 3</sup>; ECUADOR.

A common and very variable species. A female from Chiriqui in Dr. Staudinger's collection is almost without markings on the wings.

## EPIONE.

*Epione*, Duponchel, in Godart's Hist. Nat. Lép. Fr. iv. 2, p. 105 (1829); Walker, Cat. xx. p. 117.

### 1. *Epione* (?) *asteria*, sp. n. (Tab. XLV. figg. 3, ♂; 4, ♀.)

*Male*. Primaries bright yellow, slightly streaked on the costal margin with brown, the outer margin from the apex to the anal angle broadly bordered with dark brown, a black spot at the end of the cell, the fringe dark brown; secondaries bright yellow, with a minute black dot at the end of the cell, below which a very faint line crosses the wing from the costal to the inner margin, a submarginal row of dark brown spots extending from the apex to the anal angle, the fringe bright yellow; the underside very similar in colour, but thickly irrorated with dark brown scales: head, the thorax in front, the antennæ, and legs pale



brown, the rest of the thorax and the abdomen yellow. The female considerably paler in colour, the base of the primaries brownish, the line crossing the secondaries much wider. Expanse, ♂  $1\frac{1}{4}$ , ♀  $1\frac{2}{10}$  inch.

*Hab.* MEXICO, Durango (*Forrer*), Cordova (*Rümeli*), Coatepec (*coll. Schaus, Brooks*) Jalapa (*coll. Schaus, M. Trujillo*), Orizaba (*F. D. Godman, H. J. Elwes*), Xucumanatlan 7000 feet, and Amula 6000 feet, both in Guerrero, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, in the city, Dueñas, Calderas, San Gerónimo (*Champion*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

A most variable species, and very common in Mexico, where it is found on the wing nearly every month in the year. Some specimens are almost entirely yellow, without markings; others are very pale. A female in Mr. Schaus's collection is without the brown margin to the primaries, agreeing well with one from the city of Guatemala. Our description and figures are taken from heavily marked Atoyac specimens; in many others we have received the secondaries are entirely without markings.

## 2. *Epione* (?) *megamede*, sp. n. (Tab. XLV. figg. 5, ♂; 6, ♀.)

*Male.* Primaries and secondaries pale lemon-yellow, very thickly irrorated with minute pale brown streaks; the primaries crossed from the costal to the inner margin by two pale brown waved lines—the first near the base, the second beyond the cell,—and with a small blackish-brown spot at the end of the cell; the secondaries crossed about the middle from the costal to the inner margin by a very fine brown line, below which is a second indistinct waved rather broader line, and with a small black spot at the end of the cell; the marginal line of both wings pale brown, the fringe pale lemon-yellow; the underside considerably paler in colour, and with the markings very indistinct: head, thorax, abdomen, and legs pale yellow.—*Female.* Primaries and secondaries of a paler yellow colour than in the male; the lines very indistinct, being only indicated by pale brown streaks; a rather large irregular brownish-fawn-coloured spot on the costal margin close to the apex; the underside almost as above. Expanse, ♂  $1\frac{1}{4}$ , ♀  $1\frac{2}{10}$  inch.

*Hab.* MEXICO (*Boucard, in mus. D.*), Las Vigas (*coll. Schaus*), Amecameca (*F. D. G.*).

Our specimens of this species are in poor condition. We figure a pair belonging to Mr. Schaus, who informs me that *E. megamede* is a common insect at Las Vigas.

## 3. *Epione* — ?

*Hab.* GUATEMALA, Totonicapam 8500 to 10,500 feet (*Champion*).

One specimen, too worn for identification.

## SYRRHODIA.

*Syrrhodia*, Hübner, Verz. bek. Schmett. p. 300 (1816).

*Hyperythra*, Guenée, Sp. gén. des Léop. ix. p. 99 (1857); Walker, Cat. xx. p. 124.

*Syrrhodia* includes species from India and other eastern localities, as well as from Tropical America. The type, *S. decrepitaria*, occurs in our region.

## 1. *Syrrhodia decrepitaria*.

*Syrrhodia decrepitaria*, Hübn. Verz. bek. Schmett. p. 300<sup>1</sup>; Zutr. Samml. exot. Schmett. ii. p. 29. figg. 371, 372<sup>2</sup>.



*Aspilates decrepitaria*, Guen. Sp. gén. des Léop. x. p. 184<sup>3</sup>; Walk. Cat. xxiv. p. 1069<sup>4</sup>.

*Hyperythra decrepitaria*, Butl. Trans. Ent. Soc. Lond. 1881, p. 322<sup>5</sup>.

*Hyperythra versatiliaria*, Guen. loc. cit. ix. p. 102<sup>6</sup>; Walk. Cat. xx. p. 125<sup>7</sup>; Snell. Tijdschr. voor Ent. xvii. p. 21<sup>8</sup>; Möschl. Verh. zool.-bot. Ges. Wien, xxxi. p. 400<sup>9</sup>, and Beitr. zur Schmett.-Fauna von Surinam, iv. p. 10<sup>10</sup>.

*Syrrhodia versatiliaria*, Feld. & Rogenh. Reise der Novara, Lep. t. 123. fig. 22<sup>11</sup>.

*Hyperythra mimasaria*, Walk. Cat. xx. p. 132<sup>12</sup>.

*Hab.* MEXICO, Cordova (*Rümeli*), Coatepec, Paso de San Juan in Vera Cruz (*coll. Schaus*), Dos Arroyos 1000 feet, Tierra Colorada 2000 feet, both in Guerrero, Teapa in Tabasco (*H. H. Smith*), Valladolid in Yucatan (*Gaumer*); GUATEMALA, Cahabon, Panzos, Panima, and San Gerónimo in Vera Paz, Torola, Zapote, Pantaleon, San Isidro, El Reposo (*Champion*), Volcan de Santa Maria, on the Pacific slope (*Richardson*); HONDURAS<sup>7</sup>; COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe*; *Arcé, in mus. D.*), Volcan de Chiriqui 2000 to 3000 feet, David (*Champion*), Panama city, Taboga Island (*J. J. Walker*).—COLOMBIA, Honda<sup>8</sup>; GUIANA, Surinam<sup>9 10</sup>, Cayenne<sup>6</sup>; AMAZONS<sup>5</sup>; BRAZIL<sup>3</sup>, Bahia<sup>2 4</sup>; ANTILLES, Haiti<sup>6</sup>, San Domingo<sup>7 11</sup>.

This species is very common throughout Tropical America. It varies in colour from bright yellow to greenish-brown, and some specimens are almost pink. In fact, we have every grade of colour between the specimens described by Guenée as *Hyperythra versatiliaria* and Hübner's figure of *Syrrhodia decrepitaria*. The female appears to be subject to much greater variation than the male. The markings are almost constant in both sexes, but they are sometimes very faint. Specimens from the Antilles in my own collection show just the same variation as those from the mainland. The locality for *Hyperythra mimasaria* was unknown to Walker<sup>12</sup>.

## SICYA.

*Sicya*, Guenée, Sp. gén. des Léop. ix. p. 104 (1857); Walker, Cat. xx. p. 133; Packard, in Report of the U. S. Geol. Survey of the Territ. x. p. 479, t. 5. fig. 14 (neurulation) (1876).

### 1. *Sicya pomona*.

*Sicya pomona*, Oberth. Études d'Ent. vii. p. 21, t. 3. fig. 11 (1883)<sup>1</sup>.

*Hab.* GUATEMALA, Cerro Zunil 4000 to 5000 feet (*Champion*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—ECUADOR; PERU<sup>1</sup>.

I have only seen two specimens of this insect from our region; they agree well with others from Ecuador in my own collection. It is possible that *S. pomona* may prove to be inseparable from the Colombian *S. directaria*, Guen.

2. *Sicya aurunca*, sp. n. (Tab. XLV. fig. 7, ♂.)

*Male*. Primaries and secondaries pale greyish-yellow; the primaries crossed from the apex to near the middle of the inner margin by a yellow line, which is edged on the outer side with paler colour; the secondaries partly crossed from the inner margin above the anal angle by two yellowish lines, one of which is much more distinct than the other; the fringe of both wings greyish; the underside pale lemon-yellow, darker along the costal margins, without markings of any kind: head, thorax, and legs yellowish-grey, the antennæ pale brown. The female larger than the male and yellower in colour. Expanse, ♂  $1\frac{1}{4}$ , ♀  $1\frac{1}{2}$  inch.

*Hab.* GUATEMALA, Zapote (*Champion*).

Two examples, including both sexes.

3. *Sicya mesapia*, sp. n. (Tab. XLV. fig. 8, ♂.)

*Male*. Primaries pale yellowish-grey with a greenish tinge, irrorated with darker scales, two yellowish lines crossing the wing from the costal to the inner margin—the first near the base, not quite reaching the costal margin, the second beyond the middle, extending from the apex to the middle of the inner margin—and a waved submarginal line extending from the apex to the anal angle, the fringe pale yellowish-brown; secondaries grey, crossed about the middle by a pale yellowish line, and with a short yellowish streak partly crossing from the anal angle towards the apex, the fringe alternately grey and pale yellow; the underside greyish-yellow, irrorated with darker scales, the lines as above but very indistinct: head, thorax, and legs pale yellowish-grey, the antennæ considerably darker. Expanse  $1\frac{4}{10}$  inch.

*Hab.* GUATEMALA, Dueñas (*Champion*).

One specimen.

4. *Sicya bala*, sp. n. (Tab. XLV. fig. 9, ♂.)

*Male*. Primaries pale lemon-yellow, the costal and inner margins edged with fawn-colour, a narrow brown line, edged with pinkish-white on the outer side, extending from the apex to the middle of the inner margin, the wing on the outer side of the line near the anal angle shaded with fawn-colour (in some specimens this is much more distinct than in others), a minute black point at the end of the cell; secondaries pale silky fawn-colour, with a small black spot at the end of the cell; the fringe fawn-colour; the underside of the primaries dusky fawn-colour, with the line crossing the wing indistinct, that of the secondaries slightly paler than above: head and thorax lemon-yellow, the abdomen, antennæ, and legs pale fawn-colour. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Volcan de Ixtaccihuatl 11,500 feet (*Richardson*), Las Vigas (*coll. Schaus*).

The specimen in Mr. Schaus's collection is not quite so yellow in colour as the one described and figured, but in other respects it is very similar.

5. *Sicya neda*, sp. n. (Tab. XLV. figg. 10, ♂; 11, ♀.)

*Male*. Primaries lemon-yellow, irrorated with minute darker scales, with the costal margin and two waved lines, and also the marginal one, pinkish-fawn-colour, the first line crossing nearest the base, the second extending from the apex to the middle of the inner margin, the wing on the outer side of the second line also shaded with pinkish-fawn-colour, the fringe alternately pale yellow and fawn-colour; secondaries pale silky cream-colour, the outer margin and the fringe slightly yellowish; the underside of the primaries pale lemon-yellow, with the lines very indistinct, that of the secondaries as above: head, thorax, and antennæ lemon-yellow, the abdomen and legs fawn-colour. The female differs from the



male in the primaries having the second line only indicated by a few spots, and in having a large dark fawn-coloured mark extending from the anal angle partly over the wing and along the outer margin. Expanse, ♂  $1\frac{3}{4}$ , ♀  $1\frac{4}{5}$  inch.

*Hab.* MEXICO, Milpas in Durango 5900 feet (*Forrer*), Las Vigas (*coll. Schaus*):

Apparently a variable species. A female from Las Vigas has the primaries bright lemon-yellow, almost entirely without markings. Our figures are taken from a pair belonging to Mr. Schaus, who informs me that *S. neda* is a common insect at Las Vigas.

6. *Sicya myron*, sp. n. (Tab. XLV. figg. 12, ♂; 13, ♀.)

*Male.* Primaries reddish-orange, darker at the apex and yellower along the costal margin, with a black dot at the end of the cell, and a very faint pinkish line extending from the apex to the inner margin: secondaries pale yellowish-fawn-colour, paler at the base; the fringe of both wings fawn-colour; the underside paler than above: head, thorax, abdomen, legs, and antennæ reddish-fawn-colour. The female has the primaries yellow, heavily blotched with dark brownish-fawn-colour, and the lines wide and very distinct. Expanse, ♂ ♀,  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

Two pairs.

7. *Sicya* (?) *ascolia*, sp. n. (Tab. XLV. fig. 14, ♂.)

*Male.* Primaries brownish-orange, crossed from the costal to the inner margin by two faint brown lines—the first near the base and very indistinct, the second beyond the middle,—the second one edged with a grey line on the outer side, a small dark brown spot at the end of the cell; secondaries pale fawn-colour, paler at the base and along the costal margin, with a faint brown line crossing about the middle; the fringe brownish-orange, that of the secondaries paler; the underside very pale greyish-fawn-colour, whitish at the apex and along the outer margin of the primaries, the lines as above but very faint: head, thorax, abdomen, antennæ, and legs brownish-orange. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*), Amecameca (*F. D. G.*).

Six examples, no two of which are alike in colour. Some specimens are very pale fawn-colour, with the lines crossing the wings dark brown.

## ACROTOMIA.

*Acrotomia*, Herrich-Schäffer, Samml. aussereur. Schmett. p. 64 (1850–58).

A single species, from Mexico, *A. viminaria*, was placed under this generic name by Herrich-Schäffer; I refer seven others to it.

### 1. *Acrotomia viminaria*.

*Cratoptera viminaria*, Herr.-Schäff. Samml. aussereur. Schmett. p. 44, figg. 313, 314<sup>1</sup>.

*Acrotomia viminaria*, Herr.-Schäff. loc. cit. p. 64<sup>2</sup>.

*Sicya* (?) *viminaria*, Walk. Cat. xx. p. 134<sup>3</sup>.

*Hab.* MEXICO<sup>1 2 3</sup>.

We have not received any specimens quite agreeing with Herrich-Schäffer's figure, from which Walker's diagnosis<sup>3</sup> is taken. It is probable that *Hyperythra syctaria*, Walk., from Venezuela, is a form of the same species.



## 2. *Acrotomia sycitaria*.

*Hyperythra sycitaria*, Walk. Cat. xx. p. 126<sup>1</sup>.

*Hab.* MEXICO, Dos Arroyos in Guerrero 1000 feet (*H. H. Smith*), Paso de San Juan in Vera Cruz (*coll. Schaus*); GUATEMALA, Cerro Zunil 4000 feet (*Champion*); HONDURAS (*Wittkugel, in coll. Staudinger*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, near the city (*J. J. Walker*).—VENEZUELA<sup>1</sup>.

Mr. Schaus informs us that this is a very common insect in Eastern Mexico. It varies considerably in the depth of colour and in the markings.

## 3. *Acrotomia muta*, sp. n. (Tab. XLV. figg. 15, 16, ♂.)

*Male.* Primaries and secondaries yellowish-fawn-colour, darker round the outer margins; the primaries with a small black dot at the end of the cell, a narrow brown line edged with white on the outer side crossing from the apex to the inner margin, and a submarginal row of white spots extending from the apex to the anal angle, the marginal line white, the fringe brown; the secondaries crossed about the middle from the costal to the inner margin by a brown line, which is edged with white on the outer side, a submarginal row of small white spots extending from the apex to the anal angle; the underside orange-yellow, with the outer margin of both wings bright orange, the primaries with a rather wide dark brown submarginal band extending from the apex to the anal angle, and on the outer side of this a very fine waved white line: head, antennæ, thorax, and abdomen yellowish-fawn-colour above, pale yellow beneath; the legs yellow. Expanse  $1\frac{6}{10}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen.

## 4. *Acrotomia polla*, sp. n. (Tab. XLV. figg. 17, ♂; 18, ♀.)

*Male.* Primaries and secondaries pale creamy-fawn-colour; the primaries crossed from the apex to about the middle of the inner margin by a rather wide yellow line, and with a faint curved yellow line nearer the base, a small black dot at the end of the cell, a brown spot on the costal margin close to the apex, and a submarginal indistinct waved line extending from the apex to the anal angle, the fringe pale brown; the secondaries crossed about the middle by a yellow line similar to that on the primaries, and with a faint submarginal line extending from the apex to the anal angle, the fringe brown; the underside yellow, with a line crossing the primaries from the apex almost to the inner margin, a small black dot at the end of the cell on both wings: head, thorax, abdomen, and antennæ pale fawn-colour. The female differs from the male in having the primaries and secondaries irrorated with blackish-brown, and the line crossing them much more indistinct. Expanse, ♂  $1\frac{7}{10}$ , ♀  $1\frac{1}{2}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

Two specimens, one of each sex.

## 5. *Acrotomia* (?) *mucia*, sp. n. (Tab. XLV. figg. 19, 20, ♂.)

*Male.* Primaries and secondaries yellowish-olive-colour with a greyish gloss; the primaries crossed from the costal to the inner margin by two darker curved lines—the first near the base, edged on the inner side with a very fine waved white line, the second about the middle,—beyond which a zigzag fine white line extends from the costal margin near the apex to about the middle of the inner margin, where it joins the second dark line crossing the wing, the fringe olive-yellow; the secondaries crossed beyond the middle by a zigzag white line, beyond which is an indistinct greyish band, and with a very distinct black spot at the end of the cell, the fringe orange-yellow; the underside of the primaries greenish-yellow, with a submarginal brown line extending from the apex to the inner margin, and a spot at the end of the cell and the

edge of the costal margin close to the apex white,—that of the secondaries orange-yellow, irrorated along the costal margin with brown, and with a black dot at the end of the cell: head, thorax, and abdomen above yellowish-olive-colour, beneath and the legs orange-yellow, the antennæ brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen.

6. *Acrotomia minucia*, sp. n. (Tab. XLV. figg. 21, ♂; 22, ♀.)

*Male.* Primaries and secondaries pale brownish-grey, irrorated with grey; the primaries crossed from the apex to the middle of the inner margin by a reddish-brown line, this line extending across the middle of the secondaries, both wings with a submarginal waved white line, the fringe grey; the underside pale yellow, irrorated with brown scales, both wings with a rather wide submarginal dark brown line (which is not nearly so broad in some specimens as in others), the primaries with three small white spots close to the apex: head, thorax, abdomen, and legs pale fawn-colour, the antennæ brown.—*Female.* Primaries and secondaries pinkish-fawn-colour, slightly irrorated with brown scales, both wings crossed from the costal to the inner margin by a wide greyish band, which is thickly irrorated with black, and has black lines on either side, the band on the primaries extending from the middle of the wing to the apex and widened towards the costal and inner margins, the fringe fawn-colour; the underside very similar to that of the male, but in some specimens the submarginal brown band on the secondaries is wanting. Expanse, ♂ ♀,  $1\frac{5}{8}$  inch.

*Hab.* MEXICO, Cordova (*Rümeli*), Coatepec (*coll. Schaus, Brooks*), Atoyac in Vera Cruz (*H. H. Smith*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—ECUADOR.

This insect varies considerably on the underside, not only in colour but in the extent of the submarginal brown band.

We figure a pair from Chiriqui.

7. *Acrotomia* (?) *bola*, sp. n. (Tab. XLV. fig. 23, ♂.)

*Male.* Primaries and secondaries of a uniform mouse-colour, the secondaries slightly darker round the outer margin, both wings crossed by two fine waved brown lines, the fringe brown; the underside reddish-brown, the primaries crossed from the apex to the inner margin by a dark brown line: head, thorax, abdomen, antennæ, and legs mouse-colour. Expanse  $1\frac{5}{8}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen.

8. *Acrotomia* (?) *nisa*, sp. n. (Tab. XLV. fig. 24, ♂.)

*Male.* Primaries and secondaries very pale fawn-colour, crossed from the costal to the inner margin by a wide pale yellow band, which is edged on either side with a fine brown line, and with a submarginal waved brown line, the secondaries with a very distinct black spot at the end of the cell, the fringe yellowish-brown; the underside pale brownish-white, the primaries with a submarginal waved brown line: head, thorax, abdomen, and legs pale fawn-colour, the antennæ pale brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* GUATEMALA, San Gerónimo (*Champion*).

Two specimens.



## THERINA.

*Therina*, Hübner, Verz. bek. Schmett. p. 283 (1816); Packard, in Report of the U.S. Geol. Survey of the Territ. x. p. 492, t. 6. fig. 1 (neururation) (1876).

*Terina*, Hübner, loc. cit.

*Ellopia*, Treitschke, Schmett. Europ. vi. 1, p. 89 (partim) (1827); Guenée, Sp. gén. des Lép. ix. p. 129; Walker, Cat. xx. p. 158.

The type of this genus is *T. fasciaria* (Linn.), of Europe. *Therina* is very widely distributed, occurring even in Australia; six species from Central America are here referred to it.

1. ***Therina axion***, sp. n. (Tab. XLV. figg. 25, ♂; 26, ♀.)

*Male*. Primaries and secondaries pale greyish-ochreous, thickly irrorated with dark brown scales, the primaries crossed by two somewhat indistinct chrome-yellow bands—the first near the base, not quite reaching the costal margin, the second beyond the middle,—the second band continued across the secondaries to the inner margin above the anal angle, the fringe greyish-ochreous: head, antennæ, thorax, and legs pale ochreous, the abdomen yellow. The female has the outer margins of the wings more angular, and is generally paler in colour than the male. Expanse, ♂ ♀,  $1\frac{1}{2}$  inch.

*Hab*. MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*); GUATEMALA, Las Mercedes 3000 feet, San Gerónimo (*Champion*); PANAMA, Volcan de Chiriqui, 3500 to 4000 feet (*Champion*).

Varies slightly in colour and in the distinctness of the lines crossing the wings. The specimens from Guatemala and Panama are slightly darker than those from Mexico, these latter having a yellower tinge.

We figure a pair from Amula.

2. ***Therina betala***, sp. n. (Tab. XLV. fig. 27, ♂.)

*Male*. Primaries and secondaries pale brownish-fawn-colour, paler at the base, the primaries crossed from the costal to the inner margin by two straight indistinct brown lines, and with a cream-coloured round spot near the apex, the secondaries crossed beyond the middle from the costal to the inner margin by a faint brown line, the fringe brown; the underside considerably paler in colour, without marking of any kind, except a faint trace of the cream-coloured spot on the primaries: head, front of the thorax, and abdomen ochreous-yellow, the rest of the thorax and the legs pale brown, the antennæ dark brown. Expanse  $1\frac{1}{2}$  inch.

*Hab*. GUATEMALA, Cerro Zunil 4000 to 5000 feet (*Champion*).

One specimen. *T. betala* may be at once distinguished from its allies by the cream-coloured spot on the primaries.

3. ***Therina munda***, sp. n. (Tab. XLV. fig. 28, ♂.)

*Male*. Primaries and secondaries very pale yellowish-fawn-colour, almost semihyaline, the primaries crossed from the costal margin near the apex to near the middle of the inner margin by a row of minute brown dots (one dot on each vein), these dots being edged with yellow on the outer side, the fringe similar in colour to the wings; the underside paler than above, entirely without markings: head, antennæ, thorax, abdomen, and legs yellowish-fawn-colour. Expanse 2 inches.



*Hab.* MEXICO, Amecameca (*F. D. G.*).

One specimen, captured by Mr. Godman in April 1888.

#### 4. *Therina seminudata*.

*Ellopia seminudata*, Walk. Cat. xxvi. p. 1508 ( $\sigma$ )<sup>1</sup>.

*Therina seminudaria*, Packard, in Report of the U. S. Geol. Survey of the Territ. x. p. 495, t. 12. figg. 4, 5 (1876)<sup>2</sup>.

*Ellopia siccaria*, Walk. Cat. xxxv. p. 1547<sup>3</sup>.

*Ellopia bibularia*, Grote & Robins. Ann. Lyc. N. York, viii. p. 455, t. 15 A. fig. 8<sup>4</sup>.

*Ellopia pellucidaria*, Grote & Robins. loc. cit. p. 456, t. 15 A. fig. 9<sup>5</sup>.

*Hab.* NORTH AMERICA<sup>3</sup>, Canada<sup>12</sup>, United States<sup>245</sup>.—MEXICO, Jalapa, Coatepec (*coll. Schaus*); GUATEMALA, Las Mercedes 3000 feet (*Champion*).

We are now able to trace this common North-American species southwards into Mexico and Guatemala.

A male from Jalapa agrees well with Dr. Packard's fig. 4 ( $\sigma$ ). Apparently a rare insect within our limits, as we have only received two specimens.

#### 5. *Therina bada*, sp. n. (Tab. XLVI. figg. 1, $\sigma$ ; 2, $\varphi$ .)

*Male*. Primaries dull brown, the secondaries paler in colour; the primaries crossed from the costal to the inner margin by two pale yellowish waved lines, and with a black dot at the end of the cell, the fringe brown; the secondaries crossed about the middle by a very faint pale line; the underside considerably paler in colour than above: head, thorax, abdomen, antennæ, and legs dull brown. The female very similar to the male, but with the primaries mottled with pale yellowish-brown. Expanse,  $\sigma$  1 $\frac{1}{2}$ ,  $\varphi$  1 $\frac{3}{4}$  inch.

*Hab.* GUATEMALA, Totonicapam 8500 to 10,500 feet, Quiche Mountains 7000 to 9000 feet (*Champion*).

Varies in colour from dull brown to reddish-fawn-colour. In some male specimens the lines crossing the wings are much more distinct than in others; the females are generally paler than the males, and are still more variable in colour.

#### 6. *Therina* (?) *nomia*, sp. n. (Tab. XLVI. fig. 4, $\sigma$ .)

*Male*. Primaries pale purplish-brown, crossed about the middle from the costal to the inner margin by two waved dark brown lines, which are faintly edged with yellow, and with a waved submarginal line extending from the apex to the anal angle, and a small brown spot at the end of the cell; the secondaries paler in colour, and crossed about the middle from the costal to the inner margin by a dark brown waved line; the fringe of both wings purplish-brown; the underside much paler than above, and entirely without markings: head, antennæ, and thorax purplish-brown, the underside of the latter, the abdomen, and legs yellowish-brown. Expanse 1 $\frac{3}{4}$  inch.

*Hab.* MEXICO, Jalapa (*Höge*), Las Vigas (*coll. Schaus*).

In Mr. Schaus's collection there are three males and a female of this species. We have only received one specimen. A male from Las Vigas is figured.

## LEUCULA.

*Leucula*, Guenée, Sp. gén. des Lép. ix. p. 134 (1857); Walker, Cat. xx. p. 165; Snellen, Tijdschr. voor Ent. xvii. p. 26.

This genus contains a few species, inhabitants of Central or South America or the Antilles.

1. *Leucula ablinearia*.

*Leucula ablinearia*, Guen. Sp. gén. des Lép. ix. p. 135 (♂ ♀)<sup>1</sup>; Walk. Cat. xx. p. 166<sup>2</sup>; Snellen, Tijdschr. voor Ent. xvii. p. 27<sup>3</sup>.

*Metrocampa* (?) *lucidaria*, Walk. Cat. xxxv. p. 1547 (♂)<sup>4</sup>.

*Hab.* MEXICO, Misantla (*F. D. G.*), Cuesta de Misantla, San Lorenzo, Omealca (*M. Trujillo*), Atoyac (*H. H. Smith*), Cordova (*Rümelin*), Orizaba (*H. J. Elwes*), Coatepec (*coll. Schaus*); GUATEMALA, Cahabon, Chiacam, Purula, Panzos, and Panimá in Vera Paz, Mirandilla 1700 feet, Pantaleon 1700 feet, San Isidro (*Champion*); HONDURAS (*Dyson*<sup>4</sup>), San Pedro (*G. M. Whitely, in mus. D.*); PANAMA, Chiriqui (*Arcé, in mus. D.*; *Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 4000 feet (*Champion*). —COLOMBIA, Rio Magdalena<sup>3</sup>, BRAZIL<sup>1 2</sup>.

In some specimens of this species the grey lines crossing the primaries are much closer together than they are in others. *L. ablinearia* is very closely allied to the Brazilian *L. empusaria*, Guen.; the latter, however, is a longer-winged insect and more opaque in colour.

2. *Leucula avitta*, sp. n. (Tab. XLVI. fig. 3, ♂.)

*Male.* Primaries and secondaries white, semihyaline, the primaries crossed from the costal margin near the apex to the inner margin by a row of minute black spots, one on each vein: head, thorax, abdomen, antennæ, and legs yellowish-white. Expanse  $1\frac{4}{10}$  inch.

*Hab.* MEXICO, Sierra de las Aguas Escondidas in Guerrero 7000 feet (*H. H. Smith*).

One specimen.

3. *Leucula meganira*, sp. n. (Tab. XLVI. fig. 5, ♂.)

*Male.* Primaries and secondaries silky-white, slightly hyaline, the fringe white, both wings with a rather large greyish-black spot at the end of the cell; the primaries with the base of the costal margin edged with black, and with a faint greyish waved line extending from the inner margin across the middle of the cell, this line continuing along the costal margin nearly to the apex, and then round the outer margin to the inner margin just above the anal angle, forming a loose kind of loop which encloses the black spot at the end of the cell; the secondaries with a submarginal greyish-black line extending from near the apex to the anal angle; the underside very much as above, but with the greyish lines hardly visible: head, antennæ, and thorax greyish-white, the abdomen and legs white. The female very similar to the male, but considerably larger. Expanse, ♂  $1\frac{3}{4}$ , ♀ 2 inches.

*Hab.* MEXICO, Atoyac in Vera Cruz (*H. H. Smith*); GUATEMALA, Cubilguitz, Cahabon, Lanquin, and Senahu in Vera Paz, Pantaleon 1700 feet, San Isidro (*Champion*); COSTA



RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—CUBA, San Cristobal.

We have received a good series of this species from Guatemala. *L. meganira* is allied to *L. ablinearia*, from which it may be easily distinguished by the entirely different markings of the wings; the greyish lines, however, are much more distinct in some specimens than they are in others. Our description and figure are taken from a Cahabon specimen.

#### CABERODES.

*Caberodes*, Guenée, Sp. gén. des Lép. ix. p. 135 (1857); Walker, Cat. xx. p. 166.

##### 1. *Caberodes myandaria*.

*Ellopiia myandaria*, Walk. Cat. xx. p. 164<sup>1</sup>.

*Caberodes myandaria*, Packard, in Report of the U. S. Geol. Survey of the Territ. x. p. 497<sup>2</sup>.

*Hab.* MEXICO<sup>2</sup>, Oaxaca (*Sallé*<sup>1</sup>), Jalapa (*coll. Schaus*).

One specimen, a male, in Mr. Schaus's collection, is all I have seen of this species.

##### 2. *Caberodes* — ?

*Hab.* MEXICO, Pinos Altos in Chihuahua (*Buchan-Hepburn*).

One worn specimen, apparently allied to *C. confusaria* (Hübner).

##### 3. *Caberodes axona*, sp. n. (Tab. XLVI. fig. 6, ♂.)

*Male*. Primaries and secondaries uniform reddish-fawn-colour, both wings crossed about the middle from the costal to the inner margin by a narrow dark brown line, which is edged on the outer side with yellow, the primaries with a small black dot at the end of the cell; the underside considerably paler than above, without markings of any kind: head, thorax, abdomen, legs, and antennæ reddish-fawn-colour. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

One specimen. Allied to *C. confusaria*, from which it differs by its much darker colour, and by the primaries not having a line across their under surface.

##### 4. *Caberodes messene*, sp. n. (Tab. XLVI. fig. 7, ♂.)

*Male*. Primaries and secondaries pale greyish-yellow, both wings crossed by a brown line, the primaries also with an angular line crossing near the base and a brown spot at the end of the cell, the fringe pale greyish-yellow; the underside paler than above, the primaries slightly irrorated with brown scales, and with the costal margin tinged with yellow: head, thorax, abdomen, and legs pale greyish-yellow; the antennæ pale brown. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

One specimen.

## TETRACIS.

*Tetracis*, Guenée, Sp. gén. des Lép. ix. p. 140 (1857); Walker, Cat. xx. p. 172; Packard, in Report of the U. S. Geol. Survey of the Territ. x. p. 546, t. 5. figg. 18, 19, and t. 6. fig. 2 (neururation).

Guenée included six species in *Tetracis*, five of which are from the New World and one from Australia; the latter is probably generically distinct. Numerous North-American species have been subsequently described by Packard.

1. *Tetracis coloradaria*.

*Ennomos coloradaria*, Grote & Robins. Ann. Lye. N. York, viii. p. 443, t. 16. fig. 11 (♀)<sup>1</sup>.

*Tetracis coloradaria*, Packard, in Report of the U. S. Geol. Surv. of the Territ. x. p. 550, t. 12. fig. 47<sup>2</sup>.

*Hab.* NORTH AMERICA, Colorado<sup>1 2</sup>.—MEXICO, Pinos Altos in Chihuahua (*Buchan-Hepburn*).

A specimen from Chihuahua agrees well with one from the United States in Mr. Grote's collection, now in the National Museum.

2. *Tetracis azonax*, sp. n. (Tab. XLVI. fig. 8, ♀.)

*Female*. Primaries and secondaries lemon-yellow, slightly irrorated with brown scales; the primaries with two rather broad broken fawn-coloured lines crossing from the costal to the inner margin—the first near the base, the second beyond the middle, the latter extending from the apex to the middle of the inner margin; the secondaries with traces of a band crossing about the middle; the underside as above, but with the lines more distinct: head, thorax, abdomen, and legs lemon-yellow, the antennæ yellowish-brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* GUATEMALA, in the city (*Rodriguez*), San Gerónimo (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

One of the Costa Rican specimens has the outer band crossing the primaries broken up into dark brown round spots, but in other respects it agrees with the Guatemalan example figured.

3. *Tetracis belides*, sp. n. (Tab. XLVI. fig. 9, ♀.)

*Female*. Primaries pinkish-brown, paler at the base, along the costal margin, and on the outer side of the line that crosses the wing from the apex to the inner margin slightly above the anal angle, a black dot at the end of the cell, the fringe dark brown; the secondaries considerably paler, with a whitish shade along the costal and outer margins, and a narrow brown line extending from the costal margin near the apex to the inner margin slightly above the anal angle, the fringe pale brown; the underside pale fawn-colour, slightly irrorated with brown scales, a black dot at the end of cell of both wings: head and thorax pinkish-brown, the abdomen similar in colour to the secondaries, the antennæ pale fawn-colour, the legs greyish-brown. Expanse 2 inches.

*Hab.* MEXICO, Coatepec (*coll. Schaus*); GUATEMALA, Totonicapam 8500 to 10,500 feet (*Champion*); COSTA RICA, Rio Sucio (*Rogers*); PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).



Four examples, all females. They vary considerably in colour, and the Mexican specimen corresponds best with the one from Panama. The specimen figured is from Totonicapam; it is darker in colour than any of the others.

### EROSINA.

*Erosina*, Guenée, Sp. gén. des Lép. ix. p. 149 (1857); Walker, Cat. xx. p. 180.

A single species from Brazil was included in *Erosina* by Guenée and Walker; I now add two others to it, one of which ranges from Mexico to Peru.

#### 1. *Erosina rusticata*.

*Sabulodes rusticata* (Maassen), Reiss & Stübel, Reisen in Süd-Amerika, pp. 57, 153, t. 8. fig. 1<sup>1</sup>.

*Sabulodes proximata*, Dognin, Le Nat. 1891, p. 223<sup>2</sup>.

*Hab.* MEXICO, Coatepec (*coll. Schaus*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Arcé, in mus. D.*), Bugaba 800 to 1000 feet, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—ECUADOR<sup>1</sup>, Loja<sup>2</sup>; PERU.

This species is closely allied to *E. hyberniata*, Guen., the type of the genus *Erosina*. *E. hyberniata*, however, can always be distinguished from *E. rusticata* by its smaller size and generally darker colour; it is well figured by Guenée. I am indebted to M. Dognin for specimens of his *E. proximata*.

#### 2. *Erosina meropia*, sp. n. (Tab. XLVI. fig. 10, ♂.)

*Male*. Primaries brownish-fawn-colour, crossed from the costal to the inner margin near the base by a faint brown line, and with a dark brown line extending from near the apex to the middle of the inner margin, the wing on the inner side of this line appearing in some lights to be shaded with pinkish-white, the outer margin also shaded with the same colour; secondaries very pale fawn-colour, considerably darker round the outer margin: the fringe of both wings pale fawn-colour; the underside of the primaries pale silky-fawn-colour, darker at the apex and along the costal margin, that of the secondaries darker and slightly irrorated with dark brown scales: head, antennæ, and thorax brownish-fawn-colour, the abdomen and legs pale fawn-colour. The female with the secondaries considerably darker than in the male. Expanse, ♂  $2\frac{1}{10}$ , ♀  $2\frac{1}{4}$  inches.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).

Allied to an undescribed species from Colombia in my own collection. A male from Chiriqui is figured.

### SELENIA.

*Selenia*, Hübner, Verz. bek. Schmett. p. 292 (1816); Guenée, Sp. gén. des Lép. ix. p. 150; Walker, Cat. xx. p. 181.

Walker included six species in this genus—three from Europe, two from North America, and one from New Zealand, showing that it has a very wide distribution. Eight are now added from Mexico or Guatemala.

1. **Selenia monima**, sp. n. (Tab. XLVI. figg. 11, ♂; 12, ♀.)

*Male*. Primaries and secondaries pale greyish-white, thickly irrorated with pale brown scales, both wings crossed by two fine somewhat indistinct waved yellowish-brown lines, a black dot at the end of the cell of the secondaries, the fringe greyish-white; the underside very much as above, but paler in colour: head, thorax, abdomen, and legs greyish-white, the antennæ a little darker.—*Female*. Primaries and secondaries pale greyish-brown, thickly irrorated with brown scales, the lines much darker than in the male and edged with dark brown, the fringe dark brown; the underside greyish-brown, thickly irrorated with brown scales, the marginal lines very distinct: head, thorax, and abdomen greyish-brown, the antennæ and legs pale brown. Expanse, ♂  $1\frac{1}{2}$ , ♀  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Cuernavaca in Morelos (*H. H. Smith*).

One pair, the male worn and apparently faded.

2. **Selenia asteria**, sp. n. (Tab. XLVI. fig. 13, ♂.)

*Male*. Primaries and secondaries dark greyish-brown, thickly irrorated with greyish-white scales; the primaries crossed by two waved dark brown lines—the first near the base, the second beyond the middle, the latter much clouded with brown on the inner side,—and with a black dot at the end of the cell; the secondaries crossed about the middle by a waved dark brown line; the fringe brown; the underside considerably paler than above and with a slight yellowish tinge: head, thorax, abdomen, antennæ, and legs greyish-brown. Expanse  $1\frac{4}{10}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Coatepec (*coll. Schaus*).

Two specimens, both males. Allied to *S. monima*.

3. **Selenia myrina**, sp. n. (Tab. XLVI. fig. 14, ♂.)

*Male*. Primaries dull brown, the secondaries considerably paler; the primaries crossed about the middle by a wide reddish-brown band, edged on the outer side with a pale brown line, the outer margin shaded with darker brown; the secondaries crossed beyond the middle from the costal to the inner margin by a very faint brown line; the underside pale brown, slightly reddish along the costal margin: head, thorax, and abdomen brown, the antennæ and legs dark brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* GUATEMALA, Totonicapam 8500 to 10,500 feet, Quiche Mountains 7000 to 9000 feet (*Champion*).

Found in the pine-forest region, according to Mr. Champion. Males only were obtained.

4. **Selenia banasa**, sp. n. (Tab. XLVI. figg. 15, 16, ♂.)

*Male*. Primaries and secondaries dark olive-brown, slightly paler at the base; the primaries crossed by two dark brown waved lines—the first nearest the base, the second beyond the middle,—and with a black dot at the end of the cell; the secondaries crossed about the middle from the costal to the inner margin by a straight reddish-brown line, shaded with paler brown on the outer side; the underside pale yellow, shaded with brown along the costal margin and at the apex of the primaries, both wings thickly irrorated with dark brown scales, the brown lines as above but very much more distinct, the fringe dark brown: head, thorax, and abdomen dark olive-brown above, yellowish-brown beneath; the legs yellowish-brown, the antennæ dark brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Jalapa (*coll. Schaus*).

One specimen. Allied to *S. asteria*.



5. *Selenia nabdalsa*, sp. n. (Tab. XLVI. fig. 21, ♂.)

*Male*. Primaries and secondaries pale brown, irrorated with slightly darker scales, a small black spot at the end of the cell on the primaries: the underside very much as above, but paler in colour: head, thorax, abdomen, antennæ, and legs pale brown. Expanse  $1\frac{1}{2}$  inch.

*Hab*. MEXICO, Las Vigas (*coll. Schaus*).

One specimen.

6. *Selenia narcæa*, sp. n. (Tab. XLVI. figg. 17, 18, ♂.)

*Male*. Primaries reddish-fawn-colour, the basal two-thirds much darker, with a narrow waved line crossing from near the apex to about the middle of the inner margin, a waved line crossing near the base, a dark reddish-brown spot on the costal margin near the apex, and a submarginal indistinct waved whitish line extending from the apex to the anal angle, the outer portion of the wing shaded with brown, the fringe brown; the secondaries pale fawn-colour, with a narrow whitish line partly crossing from the inner margin above the anal angle, the wing above the line thickly irrorated with reddish-brown scales, the fringe brown; the underside reddish-fawn-colour, thickly irrorated with reddish-brown scales, the outer margin edged with grey: head, thorax, and abdomen pale brown, the thorax and abdomen beneath and the legs reddish-brown, the antennæ pale brown. Expanse  $1\frac{1}{2}$  inch.

*Hab*. MEXICO, Las Vigas (*coll. Schaus*).

Four examples, all males.

7. *Selenia belisama*, sp. n. (Tab. XLVI. figg. 19, 20, ♂.)

*Male*. Primaries pale brown, slightly irrorated with grey scales, a silvery-grey curved line extending from the costal margin near the apex to the inner margin, the wing on the outer side of this line much shaded with silvery-grey (in some lights with a pink tinge), the fringe brown; secondaries very pale greyish-white, thickly irrorated with brown scales, a fine reddish-brown line crossing the wing below the middle, the outer margin and part of the inner one shaded with brown; the underside pale brown, thickly irrorated with darker brown scales: head, thorax, abdomen, and legs pale brown, the antennæ dark brown. Expanse  $1\frac{3}{4}$  inch.

*Hab*. MEXICO, Las Vigas (*coll. Schaus*).

Four specimens, all males. Allied to *S. narcæa*.

8. *Selenia azamora*, sp. n. (Tab. XLVI. figg. 22, 23, ♂.)

*Male*. Primaries pale brown, with three short darker brown streaks along the costal margin, a rather wide pale fawn-coloured band crossing from the apex to the inner margin, and a narrow waved line crossing near the base, the outer margin shaded with brown; secondaries very pale silky-fawn-colour, thickly irrorated with dark brown scales, and partly crossed from the inner margin above the anal angle by two faint waved lines; the fringe of both wings pale brown; the underside pale silky-fawn-colour, thickly irrorated with orange-yellow scales: head, thorax, abdomen, antennæ, and legs pale brown. Expanse  $1\frac{3}{4}$  inch.

*Hab*. MEXICO, Las Vigas (*coll. Schaus*).

Two specimens, both males.

## HYGROCHROMA.

*Hygrochroma*, Herrich-Schäffer, Samml. aussereur. Schmett. p. 82 (1858); Walker, Cat. xxxv. p. 1561.

*Pericallia*, Groupe ii., Guenée, Sp. gén. des Lép. ix. p. 149.

The type of this genus is *Pericallia olivinaria*, Herr.-Schäff.

1. *Hygrochroma olivinaria*.

*Pericallia olivinaria*, Herr.-Schäff. Samml. aussereur. Schmett. p. 63, fig. 366<sup>1</sup>.

*Hygrochroma olivinaria*, Herr.-Schäff. loc. cit. p. 82<sup>2</sup>; Walk. Cat. xxxv. p. 1561<sup>3</sup>.

*Hab.* MEXICO, Milpas in Durango 5900 feet (*Forrer*), Amula in Guerrero 6000 feet (*H. H. Smith*), Coatepec (*Brooks*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—BRAZIL<sup>1 2 3</sup>.

The female of this species varies considerably in colour, some specimens being much darker than others.

2. *Hygrochroma nondina*, sp. n. (Tab. XLVI. figg. 24, ♀; 25, 26, ♂.)

*Male*. Primaries and secondaries brown; the primaries with a large pale fawn-coloured semi-oval spot on the costal margin near the apex, a round black spot at the end of the cell, a dark brown angular line crossing from the costal to the inner margin near the base, a brown line partly crossing from the inner margin beyond the cell, and a narrow white curved line extending from the apex to the inner margin near the anal angle, the outer margin of the wing clouded with greyish; the secondaries crossed about the middle by a brown line, beyond which is a very narrow waved white line, the outer portion of the wing clouded with greyish; the fringe of both wings dark brown; the underside pale brown, thickly irrorated with darker brown, both wings with a submarginal pinkish-white line and a black dot at the end of the cell, the primaries with the outer margin broadly bordered with dark brown, the secondaries with a faint zigzag whitish line extending from the apex to the anal angle: head, antennæ, and front of the thorax pale fawn-colour, the rest of the thorax, the abdomen, and legs brown.—*Female*. Primaries and secondaries dull brown, both wings crossed by a dark brown line; the primaries with a small grey spot on the inner margin near the anal angle, and the pale mark on the costal margin much more indistinct than in the male; the underside paler than in the male, and with all the markings much more indistinct: head, thorax, abdomen, antennæ, and legs dull brown. Expanse, ♂ 2, ♀ 2½ inches.

*Hab.* MEXICO, Jalapa (*Höge*), Coatepec (*Brooks*); GUATEMALA, Quiche Mountains 7000 to 9000 feet, Panajachel 5000 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 4000 feet (*Champion*).

Varies considerably in colour, some specimens being olive-green, others reddish-brown. Our figures are taken from Chiriqui examples.

3. *Hygrochroma bubona*, sp. n. (Tab. XLVI. figg. 27, ♂; 28, ♀.)

*Male*. Primaries and secondaries pale brown; the primaries crossed about the middle by a wide dark olive-brown band, which extends from the costal to the inner margin, a waved brown line crossing the wing near the base, a faint white line near the apex, and a row of small brown spots near the anal angle; the secondaries crossed below the middle by a narrow greyish line, the wing on the basal side of the line being shaded with reddish-brown, an indistinct submarginal zigzag greyish line extending from the apex



to the anal angle, the fringe pale brown; the underside pale greyish-brown, both wings crossed by a faint white line, the apex of the primaries dark brown: head, thorax, abdomen, antennæ, and legs brown.—*Female*. Primaries and secondaries reddish-brown; the primaries crossed from the costal to the inner margin by two dark brown lines—the first near the base, the second beyond the middle; the secondaries crossed from the costal to the inner margin by a narrow brown line, which is slightly shaded with grey on the outer side: the underside brighter in colour, with a single greyish line crossing each wing: head, thorax, abdomen, antennæ, and legs reddish-brown. Expanse, ♂  $1\frac{3}{4}$ , ♀ 2 inches.

*Hab.* MEXICO, Coatepec, Jalapa (*coll. Schaus*); GUATEMALA, Totonicapam 8500 to 10,000 feet (*Champion*).

Varies slightly in colour and in the distinctness of the dark band crossing the primaries of the male.

Mr. Schaus informs me that *H. bubona* is a common species at Coatepec. We figure a pair from Guatemala.

#### 4. *Hygrochroma cæsia*, sp. n. (Tab. XLVII. figg. 1, 2, ♂; 3, ♀.)

*Male*. Primaries and secondaries yellowish-brown, with their outer margins darker; the primaries crossed near the base from the costal to the inner margin by a dark brown waved line, a reddish-brown line, edged with yellow on the outer side, extending from the costal margin near the apex to about the middle of the inner margin, where it joins two rather large black spots—these spots vary greatly in size, and in some specimens they are entirely wanting; the secondaries crossed about the middle from the costal to the inner margin by a reddish-brown line; the underside pale yellow, thickly irrorated with brown scales, and with the lines as above, a brown submarginal line to both wings: head, thorax, antennæ, legs, and abdomen yellowish-brown above, yellow beneath. The female much paler in colour, without the black spots on the inner margin of the primaries; the underside very similar to that of the male. Expanse, ♂ ♀, 2 inches.

*Hab.* MEXICO, Jalapa (*coll. Schaus*); GUATEMALA, Las Mercedes 3000 feet, Cerro Zunil 4000 to 5000 feet (*Champion*).

Varies considerably in both sexes. Some specimens are much paler than others and have a greenish-yellow tinge. From Guatemala we have received numerous examples, a pair of which are figured.

#### 5. *Hygrochroma nemora*, sp. n. (Tab. XLVII. figg. 4, 5, ♂; 6, 7, ♀.)

*Male*. Primaries and secondaries pale cream-colour; the primaries broadly bordered with dark brown, shaded with bluish-grey, and with a waved white line extending from the apex to the inner margin, a rather wide greenish-brown band on the inner side of the white line, a small black dot at the end of the cell, and a narrow curved waved line crossing near the base; the secondaries with the outer margin from the apex to the anal angle clouded with brown and bluish-grey, and partly crossed below the middle by a waved white line, which is broadly bordered on the inner edge with yellowish-brown, a small black spot at the end of the cell; the underside yellow, both wings broadly bordered with dark brown, and with a similarly-coloured spot at the end of the cell, the primaries thickly irrorated with dark brown: head, antennæ, and thorax pale brown, the abdomen cream-colour above, pale yellow beneath; the legs pale yellow. The female browner in colour, with the outer margins of the wings very much paler, and the underside more thickly irrorated with reddish-brown, especially on the secondaries. Expanse, ♂  $1\frac{3}{4}$ , ♀  $1\frac{1}{8}$  inch.

*Hab.* GUATEMALA, Cubilguitz in Vera Paz, Panzos, Zapote (*Champion*); COSTA RICA

(*Gabb, in mus. D.*); PANAMA, Bugaba 800 to 1000 feet, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

Varies in colour from almost white to pale yellow. *H. nemora* is allied to an undescribed species from Ecuador in my own collection. We figure a male from Bugaba and a female from the Volcan de Chiriqui.

#### AZELINA.

*Azelina*, Guenée, Sp. gén. des Lép. ix. p. 156 (1857); Walker, Cat. xx. p. 185; Butler, Ann. & Mag. Nat. Hist. 5th ser. viii. p. 29.

*Pero*, Herrich-Schäffer, Samml. aussereur. Schmett. p. 63.

Mr. Butler in his paper above quoted includes fifty-four species in this genus, all but three (or four) of which are from America, where the genus ranges from New York to Brazil; and others have since been described by M. Oberthür. In our region *Azelina* is represented by twenty-three species.

##### 1. *Azelina stuposaria*.

*Azelina stuposaria*, Guen. Sp. gén. des Lép. ix. p. 160 (♀)<sup>1</sup>; Walk. Cat. xx. p. 192<sup>2</sup>; Butl. Ann. & Mag. Nat. Hist. 5th ser. viii. p. 31<sup>3</sup>.

*Azelina fuscularia*, Feld. & Rogenh. Reise der Novara, Lep. t. 123. fig. 11 (♀)<sup>4</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*); GUATEMALA (*Conradt, in mus. Staudinger*), Cerro Zunil 4000 to 5000 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—BRAZIL<sup>1 2 4</sup>, Rio Janeiro<sup>3</sup>.

Felder and Rogenhofer's figure is much redder than any specimen I have seen, but the markings are identical; it is possible, however, that *A. fuscularia* may prove to be specifically distinct.

A female from Jalapa in Mr. Schaus's collection is of a dark black-brown colour on the upperside, coming closest to those from the State of Panama; on the underside it agrees with them.

##### 2. *Azelina saturata*.

*Azelina saturata*, Walk. Journ. Linn. Soc., Zool. ix. p. 196 (♀)<sup>1</sup>; Butl. Ann. & Mag. Nat. Hist. 5th ser. viii. p. 32<sup>2</sup> (nec Feld. & Rogenh.).

*Azelina emmaria*, Oberth. Études d'Ent. vii. p. 22, t. 2. fig. 3<sup>3</sup>.

*Hab.* GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—COLOMBIA, Bogota<sup>1 2</sup>, Antioquia; ECUADOR; PERU, Huambo<sup>3</sup>.

Walker's type of *A. saturata* is in my own collection.

The Venezuelan insect figured under this name by Felder and Rogenhofer belongs to a different species, and I propose to call it *A. rogenhoferi*.



### 3. *Azelina honestaria*.

*Azelina honestaria*, Walk. Cat. xx. p. 258 (♂)<sup>1</sup>; Butl. Ann. & Mag. Nat. Hist. 5th ser. viii. p. 33<sup>2</sup>.

*Hab.* NORTH AMERICA, Massachusetts<sup>2</sup>.—COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

Our Costa Rican specimens are almost identical with Walker's type in the National Museum; the locality from whence this specimen was obtained is unknown.

### 4. *Azelina xylonaria*.

*Azelina xylonaria*, Oberth. Études d'Ent. vii. p. 24, t. 2. fig. 7 (1883)<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Arcé, in mus. D.*).—PERU, Huambo<sup>1</sup>.

One specimen from Chiriqui, agreeing well with M. Oberthür's figure.

### 5. *Azelina hübneraria*.

*Gonodontis ancetaria*, Hübn. Samml. exot. Schmett. ii. t. 217. figg. 1, 2 (♂), 3, 4 (♀)<sup>1</sup> (nec Cram.).

*Azelina hübneraria*, Guen. Sp. gén. des Lép. ix. p. 159<sup>2</sup>; Walk. Cat. xx. p. 186<sup>3</sup>; Butl. Ann. & Mag. Nat. Hist. 5th ser. viii. p. 33<sup>4</sup>; Pack. Proc. Bost. Soc. Nat. Hist. xiii. p. 386<sup>5</sup>.

*Hab.* NORTH AMERICA, New York<sup>3 4</sup>, California<sup>5</sup>.—GUATEMALA, Cerro Zunil 4000 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*); COSTA RICA (*Gabb, in mus. D.*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 2500 to 3500 feet (*Champion*), Panama city (*J. J. Walker*).—ECUADOR.

Varies considerably in colour and markings. Central-American specimens are usually darker than those from the United States.

### 6. *Azelina rectisectaria*.

*Pero rectisectaria*, Herr.-Schäff. Samml. aussereur. Schmett. p. 63, fig. 325<sup>1</sup>.

*Gonodontis rectisectaria*, Herr.-Schäff. loc. cit. p. 81<sup>2</sup>.

*Azelina rectisectaria*, Guen. Sp. gén. des Lép. ix. p. 157<sup>3</sup>; Walk. Cat. xx. p. 190<sup>4</sup>; Butl. Ann. & Mag. Nat. Hist. 5th ser. viii. p. 33<sup>5</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*); COSTA RICA (*Gabb, in mus. D.*).—ECUADOR; BRAZIL<sup>1 3 4 5</sup>.

All the examples I have seen of this species are a little brighter in colour than Herrich-Schäffer's figure. In some specimens the lines on the underside of the wings are very distinct, in others they are scarcely visible.

### 7. *Azelina hædularia*.

*Azelina hædularia*, Guen. Sp. gén. des Lép. ix. p. 158 (♂ ♀)<sup>1</sup>; Walk. Cat. xx. p. 190<sup>2</sup>; Butl. Ann. & Mag. Nat. Hist. 5th ser. viii. p. 35<sup>3</sup>.

*Hab.* MEXICO, Coatepec (*coll. Schaus*); GUATEMALA, Volcan de Atitlan 2500 to 3500

feet (*Champion*); PANAMA, Chiriqui (*Arcé, in mus. D.*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—ECUADOR; BRAZIL <sup>1 2</sup>, Rio Janeiro <sup>3</sup>.

### 8. *Azelina variaria*.

*Azelina variaria*, Walk. Cat. xx. p. 257 (♀) <sup>1</sup>; Butl. Ann. & Mag. Nat. Hist. 5th ser. viii. p. 36 <sup>2</sup>.  
*Azelina spectrata*, Walk. Cat. xxvi. p. 1516 <sup>3</sup>.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).—VENEZUELA <sup>2 3</sup>.

One specimen from Costa Rica, almost identical with the type of *A. variaria* in the British Museum.

### 9. *Azelina asterodia*, sp. n. (Tab. XLVII. figg. 8, ♂; 9, ♀.)

*Male.* Very similar to *A. anceta* (Cram.), but greenish-brown in colour, with the outer border of the primaries generally darker; the underside of the primaries with a large reddish spot near the apex, and that of the secondaries broadly bordered with pale yellowish-brown, both wings having a greenish shade in some lights. The female is slightly larger than the male, and has the bands on the primaries rather more distinct. Expanse, ♂ 1¾, ♀ 2 inches.

*Hab.* MEXICO, Coatepec (*coll. Schaus*); GUATEMALA, Totonicapam 8500 to 10,000 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3500 feet (*Champion*).

Our figures are taken from a Mexican male and a Guatemalan female. Allied to *A. anceta* (Cram.), from which it differs greatly on the underside; and also to *A. lindigi*, Feld. & Rogenh., specimens of which I have not seen, but to judge from the figure it appears to be quite distinct.

### 10. *Azelina anceta*.

*Phalæna Geometra anceta*, Cram. Pap. Exot. iv. p. 136, t. 360. figg. C, D <sup>1</sup>.

*Azelina ancetaria*, Guen. Sp. gén. des Lép. ix. p. 158 <sup>2</sup>.

*Azelina anceta*, Walk. Cat. xx. p. 191 <sup>3</sup>; Butl. Ann. & Mag. Nat. Hist. 5th ser. viii. p. 41 <sup>4</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*); PANAMA, Chiriqui (*Trötsch & Ribbe, in mus. Staudinger*), Bugaba, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—GUIANA, Surinam <sup>1 2 3</sup>; ECUADOR, Guayaquil <sup>3 4</sup>.

A wide-ranging species, but apparently not common.

### 11. *Azelina astapa*, sp. n. (Tab. XLVII. figg. 10, ♂; 11, ♀.)

*Male.* Primaries and secondaries pale greyish-fawn-colour, shaded with brown; the primaries crossed by two waved dark brown lines, the wing between the lines being darker brown, a small grey dot at the end of the cell; the secondaries crossed below the middle from the apex to the inner margin by a waved blackish-brown line; both wings with a marginal row of very minute black dots, and the fringe pale fawn-colour; the underside very pale greyish-fawn-colour, slightly irrorated with darker scales, the dark lines as above: head and thorax fawn-colour, the abdomen a little paler, the antennæ and legs greyish-fawn-colour. The female varies very considerably in the colour of the wings, from yellowish-fawn-colour to reddish-brown. Expanse, ♂ ♀, 1¾ inch.

*Hab.* MEXICO, Presidio de Mazatlan, Tres Marias Is. (*Forrer*), Jalapa, Coatepec, Paso



de San Juan (*coll. Schaus*), Teapa in Tabasco (*H. H. Smith*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

Mr. Schaus informs me that this is the commonest species of the genus in Mexico. The single specimen received from the Tres Marias Islands is in very poor condition, but I believe it belongs to *A. astapa*. We figure a pair from Presidio de Mazatlan.

12. *Azelina melissa*, sp. n. (Tab. XLVII. fig. 12, ♂.)

*Male*. Primaries with their basal two-thirds reddish-fawn-colour, the outer portion considerably paler, two dark brown slightly waved lines crossing from the costal to the inner margin, and a small hyaline streak at the end of the cell; secondaries reddish-fawn-colour, crossed beyond the middle from the apex to the anal angle by a very fine whitish line, and with several small black dots on the outer margin close to the anal angle; the underside greyish-fawn-colour, irrorated with darker scales, the lines very faint: head, thorax, abdomen, antennæ, and legs reddish-fawn-colour. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Jalapa (*coll. Schaus*).

One specimen.

13. *Azelina* —?

*Hab.* BRITISH HONDURAS, Belize (*Blancaneaux*).

One specimen, apparently belonging to a distinct species, but not in sufficiently good condition for determination.

14. *Azelina metella*, sp. n. (Tab. XLVII. fig. 13.)

Primaries and secondaries pale brown, the primaries crossed by two dark brown lines—the first near the base, the second beyond the middle, the latter edged on the inner side with reddish-brown,—the secondaries crossed about the middle by a very fine darker brown line; the underside pale brown, irrorated with dark brown scales, the lines very faint, a rather large black spot at the end of the cell on the secondaries: head, thorax, abdomen, antennæ, and legs pale brown. Expanse  $1\frac{2}{10}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

One specimen.

15. *Azelina aurunca*, sp. n. (Tab. XLVII. fig. 14.)

*Male*. Primaries and secondaries dark brown; the primaries crossed from the costal to the inner margin by two darker brown waved lines—the first near the base, the second beyond the middle,—and with a small hyaline spot at the end of the cell, beyond which is a reddish-brown mark, the fringe dark brown; the secondaries tinged with reddish-brown at the anal angle; the underside very much paler than above, with a large black spot at the end of the cell on the secondaries. Expanse  $1\frac{1}{6}$  inch.

*Hab.* PANAMA, Chiriqui (*Arcé, in mus. D.*; *Ribbe, in mus. Staudinger*).

This small species is allied to *A. minima*, Butl., from South-east Brazil. Two specimens, both males.

16. *Azelina clysiaria*.

*Azelina clysiaria*, Feld. & Rogenh. Reise der Novara, Lep. t. 123. fig. 12 (♀)<sup>1</sup>; Butl. Ann. & Mag. Nat. Hist. 5th ser. viii. p. 43<sup>2</sup>, and Trans. Ent. Soc. Lond. 1881, p. 325<sup>3</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*); GUATEMALA, Coban in Vera Paz (*Conradt*).—AMAZONS <sup>1 2 3</sup>.

In some specimens of this species the orange-coloured streaks on the wings are wanting. Felder and Rogenhofer's figure is highly coloured.

### 17. *Azelina incisa*.

*Azelina incisa*, Dognin, Le Nat. 1889, p. 67<sup>1</sup>; Lép. de Loja, ii. p. 60, t. 6. fig. 10 (1891)<sup>2</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ECUADOR <sup>1 2</sup>.

Panama specimens agree well with others from Loja and Sarayacu in my own collection.

### 18. *Azelina micca*, sp. n. (Tab. XLVII. figg. 15, ♂; 16, ♀.)

*Male.* Primaries and secondaries pale brown; the primaries crossed from the costal to the inner margin by two very narrow waved brown lines—the one nearest the base edged on the inner side with grey, that beyond the cell edged on the outer side with the same colour,—and with a waved hyaline streak at the end of the cell, beyond which is a yellowish-brown mark, the outer portion of the wing shaded with dark brown, the fringe brown; the secondaries crossed below the middle by a very fine waved greyish line, and with a hyaline spot at the end of the cell; the underside considerably paler than above, with a sub-marginal line only, which is very distinct: head, thorax, antennæ, and legs dark brown, the abdomen much paler. The female duller than the male, and with the markings much less distinct, also without the yellowish-brown mark at the end of the cell. Expanse, ♂ 1½, ♀ 1¾ inch.

*Hab.* MEXICO, Rinconada, Paso de San Juan (*coll. Schaus*); GUATEMALA, El Tumbador 2500 feet, Volcan de Atitlan 2500 to 3500 feet, Pantaleon 1700 feet (*Champion*); PANAMA, Volcan de Chiriqui 4000 to 6000 feet (*Champion*).

Allied to *A. incisa*, Dognin, but a very much duller-coloured insect. We have a good series of it from Guatemala, but from Panama one example only, a female, has been received. The Mexican specimen differs from the others in having the lines crossing the wings more indistinct. Our description and figures are taken from Guatemalan examples.

### 19. *Azelina rumina*, sp. n. (Tab. XLVII. figg. 17, ♂; 18, ♀.)

*Male.* Primaries and secondaries pale fawn-colour; the primaries crossed from the costal to the inner margin by two fine waved brown lines, which are edged with white and enclose a darker brown band, and with a row of three or four dark brown spots extending partly across the wing on the outer side of the second line, the outer margin shaded with pale brown and greyish lines; the secondaries crossed below the middle from the costal to the inner margin above the anal angle by a waved black line, which is edged on the outer side with greyish scales; the fringe fawn-colour; the underside very pale fawn-colour, irrorated with brown scales, except along the inner margin of the primaries, which is yellowish-white, the dark lines as above and very distinct, a large black spot at the end of the cell on the secondaries: head, thorax, abdomen, antennæ, and legs pale fawn-colour.—*Female.* Primaries and secondaries bright reddish-brown, shaded with orange-brown; the markings as in the male, but with the white lines showing more distinctly; the underside very much as in the male, but



considerably darker: head, thorax, and abdomen reddish-brown, the antennæ and legs brown. Expanso, ♂ ♀,  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*); GUATEMALA, El Tumbador 2500 feet (*Champion*); COSTA RICA (*Gabb, in mus. D.*); PANAMA (*Arcé, in mus. D.; Ribbe, in mus. Staudinger*).

Allied to *A. incisa*, Dognin. The only specimen I have seen from Mexico is smaller and paler than those from the more southern localities. The females are all very much more highly coloured than the males. We figure a male from Guatemala and a female from the Volcan de Chiriqui.

## 20. *Azelina speciosata*.

*Azelina speciosata*, Guen. Sp. gén. des Léop. ix. p. 159 (♂)<sup>1</sup>; Walk. Cat. xx. p. 191<sup>2</sup>; Butl. Ann. & Mag. Nat. Hist. 5th ser. viii. p. 44 (♂ ♀)<sup>3</sup>.

*Hab.* GUATEMALA, San Gerónimo, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Arcé, in mus. D.; Trötsch, in mus. Staudinger*).—COLOMBIA<sup>1 2</sup>; ECUADOR<sup>3</sup>.

The two specimens received from Guatemala are very much duller in colour on the underside than any of the others in the large series before me. Ecuador examples are larger and more distinctly marked than those from our region.

## 21. *Azelina pumaria*.

*Pergama pumaria*, Feld. & Rogenh. Reise der Novara, Lep. t. 123. fig. 15 (♂)<sup>1</sup>.

*Azelina pumaria*, Butl. Ann. & Mag. Nat. Hist. 5th ser. viii. p. 45<sup>2</sup>; Trans. Ent. Soc. Lond. 1881, p. 324<sup>3</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*).—AMAZONS<sup>1 2 3</sup>; BRAZIL<sup>3</sup>.

The Mexican specimen in Mr. Schaus's collection is a female; it is considerably darker in colour than Felder and Rogenhofer's figure.

## 22. *Azelina polygonaria*.

*Pergama polygonaria*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 63, 83, figg. 412, 413<sup>1</sup>.

*Synemia polygonaria*, Guen. Sp. gén. des Léop. ix. p. 164, Phalén. t. 8. fig. 2<sup>2</sup>; Walk. Cat. xx. p. 197<sup>3</sup>.

*Azelina polygonaria*, Butl. Ann. & Mag. Nat. Hist. 5th ser. viii. p. 45<sup>4</sup>.

*Hab.* GUATEMALA, Cerro Zunil 4000 feet (*Champion*); PANAMA, Chiriqui (*Arcé, in mus. D.; Trötsch, in mus. Staudinger*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—ECUADOR; BRAZIL<sup>2 3 4</sup>.

From Guatemala we have received one specimen only of this species. A beautiful variety, from Chiriqui, is contained in Dr. Staudinger's collection; it has the primaries much paler than usual, with the fine lines reddish-brown, the secondaries cream-colour, with the outer portion orange-brown, and the underside without dark lines.

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### 23. *Azelina odonaria*.

*Azelina odonaria*, Oberth. Études d'Ent. vii. p. 26, t. 1. fig. 5<sup>1</sup>.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—COLOMBIA<sup>1</sup>, Antioquia.

Specimens of this species are also contained in the National Museum, where they are erroneously labelled *Meticulodes spongiaria*, Guen.

### METICULODES.

*Meticulodes*, Guenée, Sp. gén. des Lép. ix. p. 192 (1857); Walker, Cat. xxi. p. 295.

The two described species of this genus are from Brazil; and *Azelina xylinaria*, Guen., as noted by Mr. Butler, belongs here.

### 1. *Meticulodes xylinaria*.

*Azelina xylinaria*, Guen. Sp. gén. des Lép. ix. p. 162 (♂)<sup>1</sup>; Walk. Cat. xx. p. 193<sup>2</sup>.

*Meticulodes xylinaria*, Butl. Ann. & Mag. Nat. Hist. 5th ser. viii. p. 30<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*); GUATEMALA, San Gerónimo (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Bugaba (*Champion*).—BRAZIL<sup>1 2</sup>.

Varies considerably in colour, some specimens being much paler than others; the females are generally darker than the males.

### ODONTOPERA.

*Odontopera*, Stephens, Ill. Brit. Ent., Haust. iii. p. 162 (1829); Guenée, Sp. gén. des Lép. ix. p. 164; Walker, Cat. xx. p. 197.

*Odontopera*, if the species referred to it are really congeneric, possesses a most remarkable distribution—Europe, Abyssinia, the Cape of Good Hope, and Brazil each having one or more representatives.

*Gonodontis* (?) *semilutearia*, Feld. & Rogenh., the female only of which is known, seems to me best placed here, as it agrees with *O. bidentata* (Linn.), the type of the genus, in form and neuration, though very different in colour. One new species from Central America is now added.

### 1. *Odontopera semilutearia*.

*Gonodontis* (?) *semilutearia*, Feld. & Rogenh. Reise der Novara, Lep. t. 122. fig. 6 (♀)<sup>1</sup>.

*Hab.* GUATEMALA, Volcan de Atitlan 2500 feet (*Champion*).—COLOMBIA, Bogota<sup>1</sup>.

One female specimen from Guatemala, agreeing well with the figure of Felder and Rogenhofer.



## 2. *Odontopera bubula*, sp. n. (Tab. XLVII. fig. 19, ♀.)

*Female*. Primaries and secondaries pale silky-fawn-colour; the primaries crossed by two pale brown waved lines—the first near the base, the second about the middle,—and with a similarly-coloured submarginal waved line bordered with reddish-brown extending from the apex to the anal angle; the secondaries crossed below the middle by a very faint brown line; the fringe pale fawn-colour; the underside greyish-white, slightly irrorated with fawn-coloured scales: head, thorax, abdomen, antennæ, and legs pale fawn-colour. Expanse 2 inches.

*Hab.* MEXICO, Coatepec (*coll. Schaus*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet, San Gerónimo (*Champion*).

Three specimens, all females, and varying considerably in colour. The Mexican example is smaller and duller than either of the others.

A specimen from Volcan de Atitlan is figured.

## CROCALLIS.

*Crocallis*, Treitschke, Schmett. von Europa, vi. 1, p. 151 (1827); Guenée, Sp. gén. des Lép. ix. p. 167; Walker, Cat. xx. p. 199.

Guenée and Walker included four species in this genus, three from Europe and one from Tasmania. The latter also occurs in Central America.

### 1. *Crocallis newmannaria*.

*Crocallis newmannaria*, Guen. Sp. gén. des Lép. ix. p. 169 (♂)<sup>1</sup>; Walk. Cat. xx. p. 201<sup>2</sup>.

*Hab.* GUATEMALA, San Gerónimo (*Champion*).—TASMANIA<sup>1 2</sup>.

I am unable to detect any difference between the Tasmanian examples of this species in the British Museum and those (a pair) collected by Mr. Champion in Guatemala.

## METANEMA.

*Metanema*, Guenée, Sp. gén. des Lép. ix. p. 171 (1857); Walker, Cat. xx. p. 202; Packard, in Report of the U. S. Geol. Surv. of the Territ. x. pp. 460, 542, t. 6. fig. 4 (neururation) (1876).

The few known species of this genus, with one exception, are North American; four are now added from Central America.

### 1. *Metanema cabiria*, sp. n. (Tab. XLVII. figg. 20, ♂; 21, ♀.)

*Male*. Primaries pale brown, crossed by two narrow darker brown lines—the first nearest the base, the second submarginal and extending from the apex to the inner margin,—and with two faint greyish waved lines on the outer margin; secondaries a little darker than the primaries, crossed from the costal margin above the apex to the anal angle by a narrow brown line; the fringe pale brown; the underside pale greyish-brown, very slightly irrorated with darker scales: head, thorax, abdomen, antennæ, and legs pale brown. The female is larger than the male, with the primaries more angular and the secondaries a little greyer along the outer margin. Expanse, ♂  $1\frac{6}{8}$ , ♀  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Coatepec (*coll. Schaus*); GUATEMALA, San Gerónimo (*Champion*).

Our description and figure are taken from a pair from Guatemala

2. **Metanema bonadea**, sp. n. (Tab. XLVII. figg. 22, ♂; 23, ♀.)

*Male*. Primaries and secondaries pale fawn-colour; the primaries crossed near the base by a slightly curved brown line, and with a large angular dark brown mark near the apex extending partly across from the costal margin, a small black dot at the end of the cell; the secondaries crossed beyond the middle by a faint brown line; the fringe pale fawn-colour; the underside very much as above, but without the brown mark on the primaries: head, thorax, abdomen, antennæ, and legs pale fawn-colour.—*Female*. Primaries with the brown mark not nearly so dark or so well-defined, a brown line edged with white near the apex, crossing the wing to the inner margin, and a marginal waved white line extending from the apex to the anal angle. Expanse, ♂  $1\frac{9}{16}$ , ♀  $1\frac{1}{2}$  inch.

*Hab.* GUATEMALA, Las Mercedes 3000 feet (*Champion*).

Varies slightly in colour, one of the males being very much paler than the specimen of that sex figured.

3. **Metanema neon**, sp. n. (Tab. XLVII. figg. 24, ♂; 25, ♀.)

*Male*. Primaries and secondaries pale yellowish-brown, almost yellow in the middle; the primaries crossed from the costal margin by two very faint brown lines—the first near the base, the second beyond the middle and extending from the apex to the inner margin,—and with a grey spot close to the apex and a black dot at the end of the cell; the secondaries very similarly marked; the underside pale greyish-brown, irrorated with darker scales: head, thorax, abdomen, antennæ, and legs pale brown. The female with the primaries and secondaries very pale brown, both wings crossed by indistinct brown lines and with a black spot at the end of the cell. Expanse, ♂ ♀,  $1\frac{1}{2}$  inch.

*Hab.* GUATEMALA, Las Mercedes, Volcan de Atitlan 2500 to 3500 feet, Pantaleon 1700 feet, San Gerónimo (*Champion*).

The females vary in the distinctness of the markings; in some specimens they are almost black, in others very faint.

4. **Metanema brea**, sp. n. (Tab. XLVII. fig. 26, ♂.)

*Male*. Primaries and secondaries reddish-fawn-colour, thickly irrorated with yellow; the primaries crossed from the costal to the inner margin by two narrow brown lines—the first near the base, edged on the inner side with greyish-white, the second just beyond the cell, edged on the outer side with greyish-white,—and with a large pale yellow mark at the apex and a smaller one at the anal angle; the secondaries crossed about the middle from the costal to the inner margin by a narrow brown line, which is edged on the outer side with greyish-white, and with a large yellowish patch—divided into two by a reddish waved line—at the apex extending partly along the outer margin, and a small yellow spot at the anal angle; the underside pale reddish-yellow, marked very much as above, but more indistinctly: head, thorax, abdomen, antennæ, and legs fawn-colour. Expanse  $1\frac{1}{2}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

One specimen.

MYCHONIA.

*Mychonia*, Herrich-Schäffer, Samml. aussereur. Schmett. pp. 63, 83 (1850–58).

The type of this genus is *M. corticinaria*, Herr.-Schäff., from Brazil. I refer to it, with some doubt, two species from Central America.



1. *Mychonia* (?) *bityla*, sp. n. (Tab. XLVII. fig. 27, ♂.)

*Male*. Primaries and secondaries silvery-grey; the primaries crossed near the base by an indistinct curved darker grey line, and with a black dot at the end of the cell and a submarginal row of black dots extending from the apex to the inner margin; the secondaries without markings; the fringe grey; the underside very much as above. Expanse  $1\frac{5}{8}$  inch.

*Hab*. MEXICO, Coatepec (*Brooks*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

This insect slightly resembles *Itama cinerascens*, Feld. & Rögenh., from New Zealand. The Mexican example is figured.

2. *Mychonia* (?) *noela*, sp. n. (Tab. XLVII. fig. 28.)

Primaries golden-yellow, crossed from the costal to the inner margin by a curved brown line, the fringe golden-yellow; secondaries very pale blackish-brown; the underside coloured very much as above, but without markings: head, thorax, abdomen, antennæ, and legs pale brown. Expanse  $1\frac{1}{8}$  inch.

*Hab*. GUATEMALA, San Gerónimo (*Champion*).

One worn specimen.

## ENNOMOS.

*Ennomos*, Treitschke, Schmett. von Europa, vi. 1, p. 3 (1827); Guenée, Sp. gén. des Lép. ix. p. 173; Walker, Cat. xx. p. 204.

This genus contains various representatives in Europe and North America. One is now added from the State of Panama.

1. *Ennomos* *bitias*, sp. n. (Tab. XLVIII. figg. 1, 2, ♀.)

*Female*. Primaries reddish-brown, their outer half darker and slightly irrorated with greyish scales, a small black dot at the end of the cell, and a waved white line crossing near the base from the costal to the inner margin; secondaries with their basal half reddish-fawn-colour, irrorated with greenish-brown scales, their outer half dark reddish-brown, slightly irrorated with grey scales; the fringe dark brown; the underside with the basal half bright orange-yellow, the outer half deep brownish-black; the primaries partly irrorated with brownish-black on the basal part and with a large reddish-brown patch at the apex, the fringe yellowish-brown: head, thorax, and upperside of the abdomen reddish-brown, the latter yellow at the sides and blackish-brown beneath, the antennæ and legs pale brown. Expanse 2 inches.

*Hab*. PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen. An allied form from Peru is also contained in Dr. Staudinger's collection.

## HIMERA.

*Himera*, Duponchel, in Godart's Hist. Nat. Lép. Fr. iv. 2, p. 169 (1829); Guenée, Sp. gén. des Lép. ix. p. 181; Walker, Cat. xx. p. 210.

This genus is represented in Central America by a single species, which closely resembles the well-known *H. pennaria* (Linn.) of Europe.

1. *Himera nestor*, sp. n. (Tab. XLVIII. fig. 3, ♂.)

*Male*. Primaries bright orange-brown, crossed from the costal to the inner margin by two narrow brown lines edged with pinkish-white—the first near the base, the second submarginal and extending from a large grey spot at the apex to the inner margin,—a small black dot at the end of the cell, the fringe orange-brown; secondaries very much paler, irrorated with minute brown scales on their outer half, a faint brown line crossing the wing from the costal to the inner margin, the fringe orange-brown; the underside pale greyish-brown, darker at the apex of the primaries: head and front of the thorax orange-yellow, the rest of the thorax and the abdomen orange-brown, the antennæ and legs brown. Expanse 2 inches.

*Hab.* GUATEMALA, Totonicapam 10,000 feet (*Champion*).

One specimen.

## BROTIS.

*Brotis*, Hübner, Verz. bek. Schmett. p. 303 (1816); Walker, Cat. xx. p. 213.

*Sphacelodes*, Guenée, Sp. gén. des Lép. x. p. 116 (1857).

The two species included by Hübner under the name *Brotis* belong to very different genera; I take the first, *B. vulneraria*, as the type. This latter is widely distributed in Tropical America, extending northwards to Mexico.

1. *Brotis vulneraria*.

*Brotis vulneraria*, Hübn. Verz. bek. Schmett. p. 303<sup>1</sup>; Zutr. Samml. exot. Schmett. ii. p. 23, figg. 319, 320<sup>2</sup>; Walk. Cat. xx. p. 214<sup>3</sup>.

*Sphacelodes vulneraria*, Guen. Sp. gén. des Lép. x. p. 117, Phalén. t. 22. fig. 9<sup>4</sup>.

*Hab.* MEXICO, Durango city (*Becker*), Mexico city (*Höge*), Cordova (*Rümel*), Coatepec, Paso de San Juan (*coll. Schaus*); GUATEMALA, in the city (*Rodriguez*), San Gerónimo (*Champion*); COSTA RICA (*Gabb, in mus. D.*); PANAMA, Chiriqui (*Arcé, in mus. D.*; *Trötsch, in mus. Staudinger*).—ECUADOR; PERU; BRAZIL<sup>3 4</sup>, Bahia<sup>2</sup>; ANTILLES, San Domingo<sup>3</sup>.

We have received many specimens of this species from Mexico and Guatemala. These vary considerably in colour, and also in the size and width of the red mark on the costal margin of the primaries.

## Subfam. AMPHIDASINÆ.

This subfamily, so far as at present known, is represented in Central America by three species only, belonging to two genera.

## AMPHIDASIS.

*Amphidasia*, Treitschke, Schmett. von Europa, vi. 1. p. 229 (1827).

*Amphidasys*, Guenée, Sp. gén. des Lép. ix. p. 206; Walker, Cat. xxi. p. 305.

A widely-distributed genus, no species of which has been hitherto recorded from within our limits.



1. *Amphidasia arnobia*. (Tab. XLVIII. fig. 4, ♂.)

*Phalæna Geometra arnobia*, Cram. Pap. Exot. iv. p. 188, t. 383. fig. I (♀)<sup>1</sup>.

*Amphidasys arnobiaria*, Guen. Sp. gén. des Lép. ix. p. 211 (♀)<sup>2</sup>.

*Amphidasys arnobia*, Walk. Cat. xxi. p. 308<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*Höge*, *F. D. Godman*, *M. Trujillo*), Cordova (*Rümelì*), Cuesta de Misantla (*M. Trujillo*), Atoyac in Vera Cruz (*Schumann*), Coatepec, Paso de San Juan (*coll. Schaus*), Valladolid in Yucatan (*Gaumer*); GUATEMALA, in the City (*Rodriguez*); PANAMA, Chiriqui (*Trötsch*, in *mus. Staudinger*).—VENEZUELA; GUIANA<sup>2 3</sup>, Surinam<sup>1</sup>; BRAZIL<sup>2 3</sup>; URAGUAY, Monte Video<sup>2 3</sup>; ANTILLES, San Domingo<sup>3</sup>.

Central-American specimens are larger than those from Venezuela and Brazil. Though the species is very widely distributed in America, it varies but little.

2. *Amphidasia matharma*, sp. n. (Tab. XLVIII. figg. 5, ♂; 6, ♀.)

*Male.* Primaries and secondaries dark reddish-brown, irrorated with black; the primaries from the base to the apex blotched with greyish-white along the costal portion, the other portion of the wing sparsely dotted with greyish-white, the fringe alternately black and brown; the secondaries crossed from the costal to the inner margin by two waved black lines—the first a little before, the second below, the middle,—and with a round black spot at the end of the cell, the outer portion of the wing from the inner margin near the anal angle somewhat thickly spotted with greyish-white, the fringe brownish-black; the underside considerably paler than above, with all the lines and spots very indistinct and confused: head, collar, front of the thorax, and antennæ dark brown, the rest of the thorax greyish-white, the abdomen and legs dark brown.—*Female.* Primaries and secondaries pale brown, irrorated with greyish-white and black scales, both wings crossed from the costal to the inner margin by a submarginal waved black line, this line being much more distinct on the secondaries than on the primaries; the underside much paler than above, with the lines very indistinct: head, thorax, abdomen, antennæ, and legs brown. Expanse, ♂  $2\frac{4}{10}$ , ♀  $3\frac{1}{2}$  inches.

*Hab.* GUATEMALA, Cerro Zunil 4000 feet (*Champion*); PANAMA, Bugaba 1000 feet (*Champion*).

Allied to *A. crebraria*, Guen., from Rio Janeiro, of which it may possibly prove to be a variety; but it differs so greatly in colour from Guenée's figure of that insect that I have thought it advisable to describe it as distinct. We figure a male from Bugaba, and a female from Cerro Zunil.

## SYNOPSISIA.

*Synopsisia*, Hübner, Verz. bek. Schmett. p. 317 (1816); Guenée, Sp. gén. des Lép. ix. p. 225; Walker, Cat. xxi. p. 326.

1. *Synopsisia mexicanaria*.

*Biston mexicanaria*, Walk. Cat. xxi. p. 305<sup>1</sup>.

*Synopsisia hedemanni*, Feld. & Rogenh. Reise der Novara, Lep. t. 125. figg. 14, 15 (♂ ♀)<sup>2</sup>.

*Hab.* MEXICO (*Glennie*<sup>1</sup>; *coll. Staudinger*), Puebla, Huajuapán (*Hedemann*<sup>2</sup>), Jalapa (*Höge*, *Schaus*).

We have only received one specimen of this species.

Subfam. *BOARMINÆ*.

## CLEORA.

*Cleora*, Curtis, Brit. Ent. ii. t. 88 (1825); Guenée, Sp. gén. des Léop. ix. p. 230; Walker, Cat. xxi. p. 330.

1. *Cleora godmani*, sp. n. (Tab. XLVIII. fig. 9.)

Primaries and secondaries grey, irrorated with blackish-brown, their outer margins darker, the primaries crossed from the costal to the inner margin by three waved dark brown broken lines, the outer one wider than the others, the secondaries with two dark brown spots on the inner margin, the marginal line of both wings dotted with black, the fringe grey; the underside paler than above. Expanse  $1\frac{1}{4}$  inch.

*Hab.* NORTH AMERICA, El Paso in Texas (*F. D. G.*).—MEXICO, Northern Sonora (*Morrison*).

The description and figure are taken from specimens obtained by Mr. Godman at El Paso, those from Sonora being in very poor condition.

*C. godmani* closely resembles the European *C. glabraria* (Hübner).

## BOARMIA.

*Boarmia*, Treitschke, Schmett. von Europa, vi. 1, p. 187 (1827); Walker, Cat. xxi. p. 334.

Seventeen species from Central America are here provisionally referred to *Boarmia*. The genus, as at present adopted by various authors, includes many species that do not belong to it.

1. *Boarmia pampinaria*.

*Boarmia pampinaria*, Guen. Sp. gén. des Léop. ix. p. 245 (♂)<sup>1</sup>; Walk. Cat. xxi. p. 342<sup>2</sup>.

*Cymatophora pampinaria*, Pack. in Report of the U.S. Geol. Survey of the Territ. x. p. 432, t. 11. fig. 20 (♂)<sup>3</sup>.

*Boarmia frugalaria*, Guen. loc. cit. p. 246<sup>4</sup>; Walk. Cat. xxi. p. 342<sup>5</sup>.

*Boarmia fraudulentaria*, Zeller, Verh. zool.-bot. Ges. Wien, xxii. p. 492 (1872)<sup>6</sup>.

*Hab.* NORTH AMERICA<sup>6</sup>, Georgia<sup>45</sup>, Baltimore<sup>12</sup>, Florida<sup>2</sup>, Maine<sup>3</sup> to Texas<sup>3</sup>.—MEXICO, Presidio de Mazatlan (*Forrer*), Jalapa (*Höge*), Atoyac in Vera Cruz (*H. H. Smith*), Cordova (*Rümeli*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

A variable and widely-distributed insect, and, according to Packard<sup>3</sup>, very common in the United States. In the Central-American specimens the markings are more distinct than in those I have seen from North America.

2. *Boarmia* —?

*Hab.* MEXICO, Northern Sonora (*Morrison*).

Two specimens, both males, in very poor condition, apparently belonging to a distinct species.



### 3. *Boarmia humaria*.

*Boarmia humaria*, Guen. Sp. gén. des Lép. ix. p. 246 (♂)<sup>1</sup>; Walk. Cat. xxi. p. 342<sup>2</sup>.

*Cymatophora humaria*, Pack. in Report of the U.S. Geol. Survey of the Territ. x. p. 435, t. 11. fig. 22 (♂), and t. 13. fig. 15 (larva)<sup>3</sup>.

*Boarmia intraria*, Guen. loc. cit. (♂ ♀)<sup>4</sup>; Walk. Cat. xxi. p. 343<sup>5</sup>.

*Boarmia defectaria*, Guen. loc. cit. p. 247 (♂ ♀)<sup>6</sup>; Walk. Cat. xxi. p. 343<sup>7</sup>.

*Boarmia momaria*, Walk. Cat. xxi. p. 345<sup>8</sup> (nec Guen.).

*Boarmia transfixaria*, Walk. Cat. xxi. p. 347<sup>9</sup>.

*Boarmia albigenaria*, Walk. Cat. xxi. p. 348<sup>10</sup>.

*Boarmia ephyraria*, Walk. Cat. xxi. p. 349<sup>11</sup>.

*Boarmia intractaria*, Walk. Cat. xxi. p. 349<sup>12</sup>.

*Phibalapteryx erosia*, Walk. Cat. xxvi. p. 1718<sup>13</sup>.

? *Boarmia larvaria*, Walk. Cat. xxi. p. 344<sup>14</sup> (nec Guen.).

*Hab.* NORTH AMERICA<sup>1-14</sup>.—MEXICO, Coatepec (*coll. Schaus*).

Two males and a female in Mr. Schaus's collection are the only specimens of this Northern species we have seen from our region.

The synonymy quoted is given on Packard's authority<sup>3</sup>.

### 4. *Boarmia noctiluca*, sp. n. (Tab. XLVIII. fig. 7, ♂.)

*Male*. Primaries and secondaries dusky grey, their outer margins clouded with brown, a waved black line edged with brown on the outer side crossing both wings from the costal to the inner margin, the primaries greyish-brown at the base, the fringe grey; the underside pale silky-grey, without markings of any kind: head, thorax, abdomen, and antennæ dark grey. Expanse 1¾ inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

Two specimens, both males. Allied to *B. pampinaria*, Guen.

### 5. *Boarmia* (?) *cabira*, sp. n. (Tab. XLVIII. fig. 8, ♂.)

*Male*. Primaries pale brownish-grey, very indistinctly marked with brown about the middle, and with an angulated somewhat U-shaped narrow black line starting from the costal margin and partly crossing the wing; secondaries greyish-white; the fringe pale grey; the underside pale greyish-white, without markings: head, thorax, abdomen, antennæ, and legs pale greyish-brown. Expanse 1¾ inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

Two specimens, both males.

### 6. *Boarmia dimidiaria*.

*Boarmia dimidiaria*, Walk. Cat. xxi. p. 355 (♂)<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA, Bogota<sup>1</sup>.

Chiriqui specimens are more heavily coloured than Walker's type, and they may prove to belong to a distinct species; but with our limited amount of material it is not advisable to separate them.

### 7. *Boarmia plenaria*.

*Boarmia plenaria*, Walk. Cat. xxi. p. 351 (♂)<sup>1</sup>.

*Hab.* MEXICO<sup>1</sup>, Cordova (*Rümeli*), Jalapa (*Höge*), Coatepec (*coll. Schaus*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

Apparently common in Mexico.

### 8. *Boarmia vacillaria*.

*Boarmia vacillaria*, Walk. Cat. xxi. p. 354 (♂ ♀)<sup>1</sup>.

*Boarmia delinquaria*, Walk. loc. cit. p. 360 (♂)<sup>2</sup>.

*Boarmia chalcea*, Oberth. Études d'Ent. vii. p. 30, t. 1. fig. 7<sup>3</sup>.

*Hab.* GUATEMALA, in the city (*Rodriguez*), Lanquin and San Gerónimo in Vera Paz (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 4000 feet (*Champion*).—COLOMBIA, Muzo<sup>3</sup>; VENEZUELA; ECUADOR; BRAZIL, Rio Janeiro<sup>1 2</sup>.

Central-American specimens agree perfectly with those in my own collection from various localities in South America.

### 9. *Boarmia syrniaria*.

*Tephrosia syrniaria*, Guen. Sp. gén. des Lép. ix. p. 262 (♂)<sup>1</sup>; Walk. Cat. xxi. p. 409<sup>2</sup>.

*Boarmia syrniaria*, Oberth. Études d'Ent. vii. p. 30, t. 1. fig. 8<sup>3</sup>.

*Hab.* MEXICO, in the city (*Höge*), Venta de Zopilote 2800 feet, Dos Arroyos 1000 feet, and Acaguizotla 3500 feet, all in Guerrero (*H. H. Smith*), Coatepec (*coll. Schaus*); GUATEMALA, Volcan de Santa Maria, on the Pacific slope (*Richardson*), Las Mercedes 3000 feet, Cerro Zunil 4000 to 5000 feet, San Gerónimo (*Champion*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 2000 to 4000 feet (*Champion*).—COLOMBIA<sup>3</sup>; ECUADOR; PERU<sup>3</sup>; BRAZIL<sup>1 2 3</sup>.

Common on the slope of the Volcan de Chiriqui, whence we have received a large series of specimens; these do not show any variation, except that some of them are a little whiter than others.

### 10. *Boarmia* — ?

*Hab.* COSTA RICA, Rio Sucio (*Rogers*).

One specimen, a female, apparently of a distinct species, but not in sufficiently good condition for description.

### 11. *Boarmia validaria*.

*Boarmia validaria*, Guen. Sp. gén. des Lép. ix. p. 255 (♀)<sup>1</sup>; Walk. Cat. xxi. p. 356<sup>2</sup>.

*Boarmia vidriadaria*, Oberth. Études d'Ent. vii. p. 29, t. 3. fig. 3<sup>3</sup>.

*Hab.* PANAMA, Chiriqui (*Arcé, in mus. D.; Ribbe, in mus. Staudinger*).—ECUADOR; PERU, Huambo<sup>3</sup>; BRAZIL, Rio Janeiro<sup>1 2</sup>.



An exceedingly variable species. I have a good series before me, and hardly two of them are exactly alike.

### 12. *Boarmia demissaria*.

*Boarmia demissaria*, Walk. Journ. Linn. Soc., Zool. ix. p. 197 (♂) <sup>1</sup>.

*Hab.* MEXICO, Pinos Altos in Chihuahua (*Buchan-Hepburn*), Cordova (*Rümelì*), Jalapa (*Höge*), Coatepec, Paso de San Juan (*coll. Schaus*); GUATEMALA, San Joaquin and Cubulco in Vera Paz, Cerro Zunil 4000 to 5000 feet (*Champion*); PANAMA, Chiriqui (*Trötsch & Ribbe, in mus. Staudinger*), Volcan de Chiriqui 3000 to 4000 feet, David, Tolé (*Champion*).—COLOMBIA, Bogota <sup>1</sup>; ECUADOR.

A common species in Central America, Colombia, and Ecuador. Some specimens are much more distinctly marked than others. Walker's type is now in my own collection.

### 13. *Boarmia novaria*.

*Boarmia novaria*, Walk. Cat. xxi. p. 358 (♂) <sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Isidro, Volcan de Atitlan, Zapote, San Gerónimo, Purula (*Champion*); COSTA RICA (*Boucard, in mus. D.*), Caché, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Arcé, in mus. D.; Trötsch and Ribbe, in mus. Staudinger*), Bugaba 800 to 1500 feet (*Champion*), Panama city (*J. J. Walker*).—COLOMBIA; AMAZONS, Ega <sup>1</sup>.

Our large series of specimens from Central America show considerable variation in colour and also in the distinctness of the markings; in some examples the lines and spots are very distinct, in others they are faint and confused.

### 14. *Boarmia nephalia*, sp. n. (Tab. XLVIII. fig. 10, ♂.)

*Male.* Primaries and secondaries pale greyish-brown; the primaries with three dark brown spots along the costal margin, a waved dark brown line crossing about the middle, and a submarginal row of dark brown spots extending from the apex to the anal angle; the secondaries crossed about the middle by two narrow black lines, and with a black dot at the end of the cell, and a submarginal row of small brown dots extending from the apex to the inner margin; the fringe pale greyish-brown; the underside dusky brown, with the outer margins darker, a black spot at the end of the cell on both wings: head, thorax, and abdomen greyish-brown, the antennæ brown. Expanse 1 inch.

*Hab.* MEXICO, Tierra Colorada in Guerrero 2000 feet (*H. H. Smith*).

One specimen. Allied to *B. novaria*, Walk., but much darker and very differently marked.

### 15. *Boarmia inceptaria*.

*Boarmia inceptaria*, Walk. Cat. xxi. p. 361 (♂) .

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 3000 feet (*Champion*).—VENEZUELA <sup>1</sup>.

I have seen two examples of this insect from Chiriqui, one male and one female.

16. **Boarmia brotes**, sp. n. (Tab. XLVIII. fig. 11, ♀.)

*Female.* Primaries and secondaries pale brownish-grey, indistinctly streaked with darker lines; the primaries with four dark brown spots on the costal margin and a marginal row of minute black dots extending from the apex to the anal angle, the fringe brownish-grey; the secondaries crossed by several very fine black lines, the marginal line black, the fringe pale brownish-fawn-colour; the underside of a uniform dusky greyish-brown colour: head, thorax, and abdomen pale greyish-brown, the antennæ brown. Expanse  $1\frac{1}{4}$  inch.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).

Two examples, both females. Our description and figure are taken from Dr. Staudinger's specimen.

17. **Boarmia nepia**, sp. n. (Tab. XLVIII. fig. 12, ♀.)

*Female.* Primaries and secondaries very dark brownish-grey, indistinctly marked with wavy lines, each with a narrow broken black line crossing below the middle, the marginal line black, the fringe greyish-brown; the underside dark greyish-brown, the outer margins darker, the apex of the primaries yellowish-white: head, thorax, abdomen, antennæ, and legs dark brownish-grey. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, near Durango City (*Becker*).

Two female specimens, one considerably darker than the other.

## TEPHROSIA.

*Tephrosia*, Boisduval, Gen. et Ind. Method. Europ. Lep. p. 198 (1840); Guenée, Sp. gén. des Lép. ix. p. 258; Walker, Cat. xxi. p. 398.

This genus is represented in most parts of the world. Fifty-nine species were included in it by Walker, and many others have since been described by various authors. Seven from Central America are here referred to it, six of which are described as new.

1. **Tephrosia bostar**, sp. n. (Tab. XLVIII. fig. 13, ♂.)

*Male.* Primaries and secondaries dull brownish-grey, each crossed by several indistinct brown lines, and with a submarginal and a marginal row of dark brown dots extending from the apex to the anal angle, the primaries with two large brownish-black spots on the inner margin, the fringe greyish-brown; the underside pale greyish-brown, crossed by a faint line: head, thorax, and abdomen brownish-grey, the antennæ pale brown. The female very similar to the male. Expanse  $1\frac{1}{2}$ – $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Cordova (*Rümeli*), Coatepec (*Brooks*), Jalapa (*Höge, coll. Schaus*); GUATEMALA, Las Mercedes, Cerro Zunil, Volcan de Atitlan, San Gerónimo (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

A common insect in Central America. It varies in colour from pale brownish-grey



to slaty-grey; in some specimens the markings are very distinct, in others they are almost entirely wanting. An example from San Gerónimo is figured.

2. *Tephrosia bura*, sp. n. (Tab. XLVIII. fig. 14, ♂.)

*Male*. Primaries greyish-white, thickly irrorated with brownish-grey scales, and crossed from the costal to the inner margin by four indistinct broken brownish lines, the marginal line dark brown, the fringe greyish-white; secondaries silky greyish-white, with a submarginal greyish line extending from the apex to the anal angle, and an indistinct spot at the end of the cell, the marginal line blackish-brown, the fringe greyish-white; the underside greyish-white, the primaries darker than the secondaries, especially near the apex: head, thorax, and abdomen greyish, the antennæ pale brown. The female very similar to the male. Expanse  $1\frac{1}{2}$  inch.

*Hab*. GUATEMALA, Totonicapam 8500 to 10,500 feet, Volcan de Agua 8500 to 10,500 feet, Las Mercedes 3000 feet (*Champion*).

Many specimens, varying slightly in colour, those from Las Mercedes being smaller and darker than the others. A male from Totonicapam is figured.

3. *Tephrosia* (?) *azenia*, sp. n. (Tab. XLVIII. fig. 15, ♂.)

*Male*. Primaries and secondaries pale yellowish-grey; the primaries crossed from the costal to the inner margin by five brownish waved lines—the first two near the base, the third and fourth very close together beyond the middle, the fifth submarginal and somewhat broken up into spots; the secondaries partly crossed by three indistinct brown lines; the fringe pale yellowish-grey; the underside as above, but considerably paler in colour: head, front of thorax, and anal tuft yellowish, the rest of the thorax, the abdomen, and legs brownish-grey, the antennæ brown. Expanse  $1\frac{3}{10}$  inch.

*Hab*. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen.

4. *Tephrosia* (?) *balsa*, sp. n. (Tab. XLVIII. fig. 16, ♂.)

*Male*. Primaries greyish-brown with a purplish tinge, crossed from the costal to the inner margin by three rather wide dark brown bands, the second and third of which are edged with white on the outer side, the veins on the outer margin black; secondaries silky-grey, crossed below the middle by two very faint brownish lines; the fringe greyish; the underside greyish-white, without markings: head and thorax greyish-brown, the abdomen much paler, the antennæ brown. Expanse 2 inches.

*Hab*. MEXICO, Milpas in Durango 5900 feet (*Forrer*).

One specimen.

5. *Tephrosia condensaria*.

*Boarmia condensaria*, Guen. Sp. gén. des Lép. ix. p. 245, Phalén. t. 6. fig. 10<sup>1</sup>; Walker, Cat. xxi. p. 353<sup>2</sup>.

*Hab*. MEXICO, Cuesta de Misantla (*M. Trujillo*), Córdova (*Rümeli*), Coatepec, Las Vigas (*coll. Schaus*); GUATEMALA, Las Mercedes, Zapote, San Gerónimo, Senahu (*Champion*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—BRAZIL<sup>1 2</sup>.

We have a large series of specimens of this species from our region, these showing a

considerable amount of variation in colour and markings. Guenée's figure is greener than any specimen I have seen.

6. *Tephrosia muræna*, sp. n. (Tab. XLVIII. figg. 17, ♂; 18, ♀.)

*Male*. Primaries greenish-brown, mottled with grey and white, and with a submarginal row of black spots tipped on the outer side with white extending from the apex to the anal angle, and a black spot at the end of the cell, edged on the outer side with white, the marginal line with black points, the fringe alternately greenish-brown and dark brown; secondaries pale greyish, irrorated with darker scales, crossed below the middle by a waved blackish line, which extends from near the apex to the inner margin, a submarginal row of spots and the marginal line black, the fringe yellowish-brown; the underside pale yellowish-brown, the primaries much clouded with blackish-brown, the secondaries irrorated with greenish-brown scales and with a black spot at the end of the cell: head and thorax greenish-brown, the abdomen paler, the antennæ brown, the legs yellowish. The female with the primaries more distinctly marked with white and the secondaries paler. Expanse, ♂  $1\frac{6}{10}$ , ♀  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Omilteme 8000 feet, Sierra de las Aguas Escondidas 9000 feet, both in Guerrero (*H. H. Smith*); GUATEMALA (*Conradt, in mus. Staudinger*), Totonicapam 8500 to 10,500 feet (*Champion*).

Allied to *T. condensaria*, Guen. Varies slightly in colour, some specimens being much paler than others. We figure a pair from Omilteme.

Mr. Champion's specimens were found upon the trunks of pines, on the summit of the Cordillera.

7. *Tephrosia axica*, sp. n. (Tab. XLVIII. fig. 19, ♂.)

*Male*. Primaries greenish-grey shaded with a darker tint, crossed from the costal to the inner margin beyond the middle by a dark clouded brownish-green band, and with a small black spot at the end of the cell and a submarginal row of pale spots edged with black extending from near the apex to the anal angle, the marginal line with black points, the fringe whitish; secondaries dull greyish-white, with a very indistinct submarginal dark greyish line extending from the apex to the anal angle, the marginal line with black points, the fringe greyish-white; the underside dusky white, the outer margins clouded with blackish-brown, a rather large black spot at the end of the cell on the secondaries: head and thorax greenish-grey, the abdomen much paler, the antennæ greenish-brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

One specimen. Closely allied to *T. muræna*, but easily separable from that insect by the differently-coloured underside, and the whiter fringes and hind wings.

ERGAVIA.

*Ergavia*, Walker, Cat. xxxv. p. 1598 (1866).

The type of this genus is *E. bogotaria*, Walk., from Colombia. This insect also occurs in Central America, whence three additional species are now recorded.

1. *Ergavia bogotaria*. (Tab. XLVIII. fig. 20, ♀.)

*Ergavia bogotaria*, Walk. Cat. xxxv. p. 1599 (♂) <sup>1</sup>.

*Hab.* HONDURAS (*Wittkugel, in mus. Staudinger*).—COLOMBIA. Bogota <sup>1</sup>.



One example, a female, from Honduras, almost identical with Walker's type, which is now in my own collection. We figure Dr. Staudinger's specimen.

2. **Ergavia calvina**, sp. n. (Tab. XLVIII. figg. 21, ♂; 22, ♀.)

*Male*. Primaries and secondaries pale greyish-brown, irrorated with darker brown scales; the primaries crossed beyond the middle by a very faint waved narrow black line, and with three black spots crossing near the apex, the marginal line black, the fringe pale brown; the secondaries crossed from the apex to the inner margin by a narrow waved black line, the marginal line black edged with white on the inner side; the underside pale brown, with a pinkish shade in some lights, a small black spot at the end of the cell on both wings: head, thorax, and abdomen pale greyish-brown, the antennæ darker brown, the legs pale brown.—*Female*. Primaries and secondaries pale greyish-brown, shaded with greenish-grey and mottled with pale brown; the primaries crossed from the costal to the inner margin by two narrow black lines—the first near the base, the second considerably beyond the middle,—and between these lines thickly shaded with pale pinkish-brown scales, a fine submarginal waved white line extending from the apex to the anal angle and a large tuft of raised greyish-brown scales at the end of the cell, the fringe greyish-brown; the secondaries crossed beyond the middle from the costal to the inner margin by a waved very distinct black line, the wing on the inner side of this line broadly banded with dark brown, the inner margin irrorated with black scales, a narrow submarginal waved white line extending from the apex to the anal angle, the marginal line black, edged with white, a large tuft of greyish-brown scales at the end of the cell, the fringe greyish-brown; the underside pale pinkish-brown, greyish near the base, both wings crossed beyond the middle by a waved brown line, and with several indistinct brown spots on the outer margin and a brown streak at the end of the cell: head and thorax greyish-brown; the abdomen above pale brown, banded with grey, beneath greyish; the legs greyish, the antennæ brown. Expanse, ♂ 1¾, ♀ 2⅔ inches.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*).

One pair. Allied to *E. bogotaria*, Walk.

3. **Ergavia caletra**, sp. n. (Tab. XLVIII. fig. 23, ♂.)

*Male*. Primaries and secondaries dark grey, crossed from the costal to the inner margin by indistinct waved darker grey lines; the primaries with a black spot at the end of the cell and a submarginal row of black dots extending from the costal margin to the anal angle, the marginal line black with white points, the fringe grey; the secondaries with a tuft of greyish-black scales at the end of the cell, the marginal line black, edged on the inner side with white, the fringe dark grey; the underside paler than above: head, thorax, abdomen, and legs dark grey; the abdomen with a row of black spots down the middle, one on each segment; antennæ greyish-brown. Expanse 1½ inch.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*).

One specimen. Allied to *E. calvina*, but differing from it in colour and markings.

4. **Ergavia assecoma**, sp. n. (Tab. XLVIII. figg. 24, ♂; 25, ♀.)

*Male*. Primaries and secondaries reddish-fawn-colour, crossed from the costal to the inner margin by fine, indistinct, slightly darker lines: the primaries with the marginal line black and the fringe reddish-fawn-colour; the secondaries with a distinct submarginal dark brown waved line extending from the costal to the inner margin, the marginal line black, edged with white on the inner side, a tuft of blackish scales at the end of the cell; the underside paler than above: head, thorax, abdomen, and legs reddish-fawn-colour, the antennæ brown.—*Female*. Primaries and secondaries pale fawn-colour, with the lines dusky and very indistinct, a tuft of blackish scales at the end of the cell on both wings; the underside paler than above and with the lines even more indistinct: head, thorax, and abdomen pale fawn-colour, the antennæ and legs slightly darker. Expanse, ♂ ♀, 1⅞ inch.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*), Yucatan (*mus. Staudinger*), Valladolid in Yucatan (*Gaumer*); GUATEMALA, in the city (*Rodriguez*).

Varies slightly in colour, two females from Guatemala being darker than the other specimens. We figure a pair from Yucatan.

## BRYOPTERA.

*Bryoptera*, Guenée, Sp. gén. des Lép. ix. p. 273 (1857); Walker, Cat. xxi. p. 425.

Guenée included six species in this genus, all from Brazil, some of which are of very doubtful value. One of these extends northwards to Mexico.

### 1. *Bryoptera infuscaria*.

*Bryoptera infuscaria*, Guen. Sp. gén. des Lép. ix. p. 274 (♀)<sup>1</sup>; Walk. Cat. xxi. p. 426<sup>2</sup>.

*Boarmia larentiata*, Walk. Cat. xxi. p. 361 (♀)<sup>3</sup>.

*Boarmia consimilaria*, Walk. Cat. xxi. p. 363 (♀)<sup>4</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Coatepec (*Brooks, coll. Schaus*), Atoyac in Vera Cruz (*Schumann*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Balheu, San Gerónimo, Las Mercedes, Volcan de Atitlan (*Champion*); NICARAGUA, Chontales (*Janson*); COSTA RICA, Rio Sucio, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe and Trötsch, in mus. Staudinger*), Bugaba 800 to 1500 feet, Volcan de Chiriqui 2000 to 4000 feet (*Champion*).—BRAZIL<sup>1 2</sup>, Rio Janeiro<sup>3 4</sup>.

A common insect in Central America, and varying to any extent in size and colour.

### 2. *Bryoptera* (?) *candara*, sp. n. (Tab. XLVIII. fig. 26.)

*Male?* Primaries and secondaries pale fawn-colour, irrorated with black scales and minute spots; the primaries with five small black dots close together on the middle of the outer margin, the margin dotted with black, the fringe yellowish-fawn-colour; the secondaries with a very large blackish patch extending from the apex nearly to the inner margin, and two narrow angulated black lines running across the middle, the marginal line black, the fringe pale fawn-colour; the underside greyish-white, the primaries with a pinkish shade, both wings crossed by two rows of very small reddish-brown spots: head, thorax, and abdomen pale fawn-colour (antennæ and legs wanting). Expanse  $1\frac{1}{10}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

I place this peculiar little species in the genus *Bryoptera* with some doubt the single specimen received is without antennæ, palpi, and legs.

## BRONCHELIA.

*Bronchelia*, Guenée, Sp. gén. des Lép. ix. p. 286 (1857); Walker, Cat. xxi. p. 450; Packard, in Report of the Geol. Survey of the Territ. x. p. 443, t. 5. fig. 4 (neurulation) (1876).

Some of the largest and finest species of the family Geometridæ belong to this genus, which seems to be exclusively American, ranging from the United States to Brazil, and also inhabiting the Antilles. The single species occurring north of our



limits has been described under a variety of names by Walker; its larva feeds upon *Liriodendron tupulifera*. From Central America seven species are now recorded, some of which are not uncommon.

1. **Bronchelia subroraria.** (Tab. XLIX. fig. 1, ♂.)

*Bronchelia subroraria*, Walk. Cat. xxi. p. 452 (♂)<sup>1</sup>.

*Hab.* MEXICO<sup>1</sup>; GUATEMALA, Las Mercedes 3000 feet (*Champion*), Coban in Vera Paz (*Conradt*); PANAMA, Bugaba, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).

We have received a good series of both sexes of this species. The female is very similar to the male, but larger. We figure a male from the Volcan de Chiriqui.

2. **Bronchelia nasica**, sp. n. (Tab. XLIX. fig. 2, ♂.)

*Male.* Primaries and secondaries ochraceous, with black and white markings (resembling those of *B. subroraria*, but with more white); the primaries with the apex and a round spot at the middle of the outer margin, and also the rest of the outer margin in part, white; the secondaries with the brown spots and markings much larger and more distinct than in *B. subroraria*; the underside yellower in colour than in that species, with the black marginal marks and bands much more distinct: head, thorax, and abdomen ochraceous, marked with dark brown, the antennæ brown. Expanse 3 inches.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

One specimen. Closely allied to *B. subroraria*, Walk., from which it may easily be distinguished by the primaries having the apex and a spot on the outer margin white.

3. **Bronchelia conjugaria.** (Tab. XLIX. fig. 4, ♂.)

*Bronchelia conjugaria*, Guen. Sp. gén. des Léop. ix. p. 287 Phalén. t. 3. fig. 11 (♀)<sup>1</sup>; Walk. Cat. xxi. p. 456<sup>2</sup>.

*Hab.* MEXICO, Sierra Madre de Tepic (*Richardson*), Jalapa (*Höge*), Cordova (*Rümeli*), Omealca near Orizaba (*M. Trujillo*); GUATEMALA, San Gerónimo (*Champion*), Coban in Vera Paz (*Conradt*); PANAMA, Chiriqui (*Arcé, in mus. D.; Trötsch, in mus. Staudinger*), Bugaba 800 to 1500 feet (*Champion*).—BRAZIL, Rio Grande<sup>1 2</sup>.

We have received numerous specimens of this species from Mexico. The females agree well with Guenée's figure; the males are generally darker, and more distinctly marked. We figure one of the latter from Omealca.

4. **Bronchelia fraternaria.**

*Bronchelia fraternaria*, Guen. Sp. gén. des Léop. ix. p. 288<sup>1</sup>; Walk. Cat. xxi. p. 454<sup>2</sup>.

*Bronchelia patronaria*, Walk. Cat. xxi. p. 455 (♀)<sup>3</sup>.

? *Bronchelia matronaria*, Guen. Sp. gén. des Léop. ix. p. 288 (♀)<sup>4</sup>; Walk. Cat. xxi. p. 455<sup>5</sup>.

*Hab.* MEXICO, Cordova (*Rümeli*), Atoyac in Vera Cruz (*Schumann*), Coatepec, Jalapa (*coll. Schaus*); HONDURAS (*Dyson*<sup>3</sup>); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger; Ribbe*).—? GUIANA, Cayenne<sup>3 4</sup>; BRAZIL<sup>1 2</sup>.

5. **Bronchelia detexta.** (Tab. XLIX. fig. 3, ♂.)

*Bronchelia detexta*, Walk. Cat. xxi. p. 452 (♂)<sup>1</sup>.

*Hab.* MEXICO, Cordova (*Rümeli*), Jalapa, Paso de San Juan (*coll. Schaus*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—ANTILLES, San Domingo<sup>1</sup>, Jamaica<sup>1</sup>.

Central American specimens agree very nearly with Walker's types in the National Collection. A male from Cordova is figured.

6. **Bronchelia puellaria.**

*Bronchelia puellaria*, Guen. Sp. gén. des Léop. ix. p. 287 (♂ ♀)<sup>1</sup>; Walk. Cat. xxi. p. 455<sup>2</sup>.

*Bronchelia mundaria*, Walk. Cat. xxi. p. 456 (♂)<sup>3</sup>.

*Hab.* MEXICO, Cuesta de Misantla (*M. Trujillo*); PANAMA, Chiriqui (*Arcé, in mus. D.*; *Trötsch, in mus. Staudinger*).—COLOMBIA<sup>1 2</sup>; GUIANA, Cayenne<sup>1 2</sup>; AMAZONS<sup>3</sup>; BRAZIL<sup>3</sup>.

I have seen four specimens of this species from Central America, three males and one female. It may readily be distinguished from all the others of the genus by the clear white ground-colour of the wings. Walker<sup>2</sup> erroneously quotes *B. conjugaria*, Guen., as a synonym.

7. **Bronchelia diffundaria.**

*Bronchelia diffundaria*, Walk. Cat. xxi. p. 457 (♂ ♀)<sup>1</sup>.

*Bronchelia anonaria*, Feld. & Rogenh. Reise der Novara, Lep. t. 125. fig. 20<sup>2</sup>.

*Hab.* COSTA RICA, Rio Sucio (*Rogers*); PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—COLOMBIA<sup>2</sup>; VENEZUELA<sup>1 2</sup>.

Costa Rican and Panama specimens agree perfectly with others from Honda and Merida in my own collection, and also with the type in the British Museum.

BONATEA, gen. nov.

*Male.* Head large; thorax rather broad; abdomen long and stout, but not extending beyond the wings. Palpi thick, porrect, the third joint somewhat elongate, very blunt at the tip. Antennæ long, filiform. Legs long, rather stout; hind tibiæ much thickened, with a very long pencil of hairs arising from the base on the inner side, the spurs small. Wings ample: primaries slightly falcate at the tip, the costal margin almost straight from the base to the apex, where it is a little rounded, the inner margin straight, the outer margin convex, feebly dentate; secondaries large, their costal margin eurved, the inner margin straight, clothed with long hairs, the outer margin very convex, rather deeply dentate. Type *Oxydia duciata*, Maassen.

I include *Bonatea* in the Boarminæ with very much doubt, but I do not know where else to place it.

1. **Bonatea duciata.** (Tab. XLIX. figg. 6, 7, ♂.)

*Oxydia duciata*, Maassen, in Reiss und Stübel's Reisen in Süd-Amerika, p. 154, t. 7. fig. 22<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—ECUADOR<sup>1</sup>.



One specimen from Chiriqui, differing from Maassen's figure in its much darker colour and slightly falcate primaries; but without seeing more examples it is inadvisable to treat it as distinct. Maassen's specimen is probably a female, the one figured here a male.

Subfam. *GEOMETRINÆ*.

Many of the species of this subfamily are very difficult to determine, owing to the colour frequently fading soon after death.

*ACHLORA*.

*Achlora*, Guenée, Sp. gén. des Lép. ix. p. 335 (1857).

The species included in *Achlora* by Guenée and Walker are all South American; the northern limit of the genus would appear to be in Chiriqui, whence two representatives are now recorded.

1. *Achlora perigearia*.

*Achlora perigearia*, Guen. Sp. gén. des Lép. ix. p. 336 (♀)<sup>1</sup>; Walk. Cat. xxii. p. 502<sup>2</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—BRAZIL<sup>1 2</sup>.

A female specimen of this species from Chiriqui is contained in Dr. Staudinger's collection.

2. *Achlora roseipalpis*.

*Achlora roseipalpis*, Feld. & Rogenh. Reise der Novara, Lep. t. 127. fig. 33 (♀)<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—VENEZUELA<sup>1</sup>; ECUADOR.

One specimen from Chiriqui, agreeing with others from Ecuador in my own collection.

*GEOMETRA*.

*Geometra* (Linn.), Treitschke, Schmett. von Europa, v. 2, p. 430 (1825) (partim); Guenée, Sp. gén. des Lép. ix. p. 341; Walker, Cat. xxii. p. 506; Packard, in Report of the U.S. Geol. Survey of the Territ. x. p. 393, t. 4. fig. 14 (neuraton) (1876).

1. *Geometra iridaria*. (Tab. XLIX. fig. 5, ♂.)

*Geometra iridaria*, Guen. Sp. gén. des Lép. ix. p. 344<sup>1</sup>; Walk. Cat. xxii. p. 508<sup>2</sup>; Snellen, Tijdschr. voor Ent. xvii. p. 40<sup>3</sup>; Pack. in Report of the U.S. Geol. Survey of the Territ. x. p. 394, t. 10. fig. 93<sup>4</sup>.

*Geometra iridaria*, var. *consequaria*, H. Edwards, Papilio, iv. p. 19<sup>5</sup>.

*Hab.* NORTH AMERICA<sup>1 2</sup>, Northern United States to Texas and California<sup>4</sup>, Georgia<sup>5</sup>, Florida<sup>5</sup>.—MEXICO, Coatepec, Vera Cruz<sup>5</sup> (*coll. Schaus*); GUATEMALA (*Conradt, in mus. Staudinger*), Dueñas (*Champion*), Guatemala city (*Rodriguez, in mus. D.*).—COLOMBIA<sup>3</sup>.

I have only seen four specimens of this species from within our limits. A male from Dueñas is figured.

## 2. *Geometra* — ?

*Hab.* MEXICO, Omilteme in Guerrero 8000 feet (*H. H. Smith*).

One female, apparently of a distinct species, very much faded and not in sufficiently good condition for determination.

## 3. *Geometra inclusaria*.

*Geometra inclusaria*, Walk. Cat. xxii. p. 508 (♂ ♀)<sup>1</sup>; Pack. in Report of the U.S. Geol. Survey of the Territ. x. p. 395<sup>2</sup>.

*Hab.* NORTH AMERICA, E. Florida<sup>1 2</sup>.—MEXICO, Jalapa, Las Vigas (*coll. Schaus*); GUATEMALA, Totonicapam 8500 to 10,500 feet, Quiche Mountains 9000 to 10,000 feet, San Gerónimo (*Champion*); PANAMA, Bugaba 800 to 1500 feet, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

A common insect in Central America.

## 4. *Geometra carbina*, sp. n. (Tab. XLIX. fig. 8, ♀.)

*Female*. Primaries and secondaries pale pea-green, each with a submarginal row of very small white points and a small reddish dot at the end of the cell, the fringe yellowish-white, the costal margin of the primaries white; the underside greenish-white, without markings: head and thorax paler green; abdomen whitish-green, with a large reddish-brown spot at the base; antennæ and legs greenish-white. Expanse  $1\frac{9}{16}$  inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

Allied to *G. inclusaria*, Walk. One specimen.

## 5. *Geometra aturia*, sp. n. (Tab. XLIX. fig. 9, ♂.)

*Male*. Primaries and secondaries pale green, slightly irrorated with brown scales, the fringe green; the primaries with the costal margin reddish-brown, a black dot at the end of the cell, and a very indistinct brown submarginal line extending from the costal margin to the anal angle; the underside white, the primaries greenish at the base and along the costal margin almost to the apex: head white, the thorax green, the abdomen greenish-white, the antennæ and legs very pale fawn-colour. Expanse  $1\frac{3}{10}$  inch.

*Hab.* MEXICO, Jalapa (*coll. Schaus*).

Four specimens. Allied to *G. inclusaria*, from which it may be distinguished by the green fringe.

## 6. *Geometra congruata*.

*Geometra congruata*, Walk. Cat. xxii. p. 511 (♀)<sup>1</sup>.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*), Atoyac (*Schumann*), Coatepec (*coll. Schaus*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—ANTILLES, San Domingo<sup>1</sup>.

This species is not well placed in the genus *Geometra*.

## NEMORIA.

*Nemoria*, Hübner, Verz. bek. Schmett. p. 285 (1816); Guenée, Sp. gén. des Lép. ix. p. 345; Walker, Cat. xxii. p. 531.

Like *Geometra*, a very widely distributed genus. Twenty species are included in it by Walker, and others have since been described by various authors.



### 1. *Nemoria bryata*.

*Nemoria bryata*, Feld. & Rogenh. Reise der Novara, Lep. t. 127. fig. 12<sup>1</sup>.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*), Atoyac in Vera Cruz (*H. H. Smith*), Paso de San Juan (*coll. Schaus*); GUATEMALA, Teleman (*Champion*); PANAMA, Chiriqui (*Arcé, in mus. D.*; *Trötsch, in mus. Staudinger*), Taboga Island (*Mathew, in mus. D.*).—COLOMBIA, Bogota<sup>1</sup>; GUIANA; ECUADOR.

Mexican specimens are generally smaller than those from more southern localities. The figure of Felder and Rogenhofer evidently represents a male and not a female as stated.

### 2. *Nemoria iris*. (Tab. XLIX. fig. 10, ♂.)

*Nemoria iris*, Butl. Trans. Ent. Soc. Lond. 1881, p. 328<sup>1</sup>.

*Hab.* GUATEMALA, San Gerónimo, Panajachel (*Champion*); PANAMA, Obispo (*Salvin, in mus. D.*).—AMAZONS<sup>1</sup>.

The San Gerónimo specimen, from which our figure is taken, agrees well with the type in the National Collection; the others are somewhat darker.

### 3. *Nemoria assa*, sp. n. (Tab. XLIX. figg. 11, 12, ♂.)

*Male.* Primaries and secondaries dull green, each crossed by a narrow dark green line, which is finely edged on the outer side with white, the fringe green; the underside blackish-grey, the outer margins with a greenish tinge: head in front, and the antennæ in part, white; thorax and abdomen green above, pale fawn-colour beneath; the legs pale fawn-colour. Expanse  $1\frac{2}{8}$  inch.

*Hab.* COSTA RICA, Rio Sucio (*Rogers*).

One specimen. Allied to *N. bryata*, Feld. & Rogenh., from which it may be distinguished by the very dark underside.

### 4. *Nemoria* (?) *corruptata*.

*Nemoria* (?) *corruptata*, Feld. & Rogenh. Reise der Novara, Lep. t. 127. fig. 6 (♀)<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—AMAZONS<sup>1</sup>.

One specimen from Chiriqui, agreeing well with the figure of Felder and Rogenhofer.

## IODIS.

*Jodis*, Hübner, Verz. bek. Schmett. p. 285 (1816).

*Iodis*, Guenée, Sp. gén. des Léop. ix. p. 353; Walker, Cat. xxii. p. 537.

*Iodis* includes a number of species from all quarters of the globe.

### 1. *Iodis productaria*.

*Thalera productaria*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 62, 82, fig. 342 (♂)<sup>1</sup>.

*Iodis productaria*, Guen. Sp. gén. des Léop. ix. p. 357 (♂)<sup>2</sup>; Walk. Cat. xxii. p. 542<sup>3</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Las Mercedes, Zapote,

San Gerónimo (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—BRAZIL<sup>1 2 3</sup>; AMAZONS, Pará<sup>2</sup>; ARGENTINE REPUBLIC.

Of this variable insect we have received but very few specimens as yet from Central America.

### DYSPTERIS.

*Dyspteris*, Hübner, Verz. bek. Schmett. p. 286 (1816); Guenée, Sp. gén. des Léop. ix. p. 361; Walker, Cat. xxii. p. 557; Packard, in Report of the U.S. Geol. Survey of the Territ. x. p. 368, t. 4. fig. 6 (neururation) (1876).

This genus may easily be known by the diminutive secondaries. It is exclusively American, ranging from Canada to Brazil.

#### 1. *Dyspteris abortivaria*.

*Dyspteris abortivaria*, Herr.-Schäff. Samml. aussereur. Schmett. p. 62, fig. 346 (♂)<sup>1</sup>; Guen. Sp. gén. des Léop. ix. p. 363<sup>2</sup>; Walk. Cat. xxii. p. 557<sup>3</sup>; Pack. in Report of the U.S. Geol. Survey of the Territ. x. p. 368, t. 10. fig. 75 (♂)<sup>4</sup>.

*Hab.* NORTH AMERICA<sup>1 2 3</sup>, Canada to Alabama<sup>4</sup>.—MEXICO, Jalapa (*coll. Schaus*); PANAMA, Chiriqui (*Ribbe*), Obispo (*Salvin, in mus. D.*).

Of this northern species we have only seen four specimens from within our limits.

#### 2. *Dyspteris inæquaria*.

*Dyspteris inæquaria*, Guen. Sp. gén. des Léop. ix. p. 363 (♂ ♀)<sup>1</sup>; Walk. Cat. xxii. p. 558<sup>2</sup>; Butl. Trans. Ent. Soc. Lond. 1881, p. 330<sup>3</sup>.

*Dyspteris diminutaria*, var., Walk. Cat. xxii. p. 558<sup>4</sup>.

*Hab.* HONDURAS (*Dyson*<sup>4</sup>); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Arcé, in mus. D.*; *Ribbe, in mus. Staudinger*).—GUIANA, Cayenne<sup>1 2</sup>; AMAZONS<sup>3</sup>, Pará<sup>2 4</sup>, Ega<sup>2 4</sup>, Santarem<sup>4</sup>.

Apparently the commonest species of the genus. Southern specimens are darker than those from Central America.

#### 3. *Dyspteris naiadaria*.

*Dyspteris naiadaria*, Guen. Sp. gén. des Léop. ix. p. 363 (♂ ♀)<sup>1</sup>; Walk. Cat. xxii. p. 559<sup>2</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Isidro 1600 feet (*Champion*).—VENEZUELA<sup>2</sup>; BRAZIL<sup>1 2</sup>.

This species is very closely allied to *D. inæquaria*, Guen.

### OMPHAX.

*Omphax*, Guenée, Sp. gén. des Léop. ix. p. 368 (1857).

#### 1. *Omphax nænia*, sp. n. (Tab. XLIX. fig. 13, ♀.)

*Female.* Primaries pale pea-green, slightly irrorated with white scales, crossed from the costal to the inner margin by two fine slightly waved white lines; secondaries silky white, with a greenish tinge round the



outer margin; the fringe and the underside of both wings greenish-white: head in front and the abdomen white, the thorax green, the antennæ and legs pale brown. Expanse  $1\frac{5}{8}$  inch.

*Hab.* MEXICO, Jalapa (*Höge*), Las Vigas (*coll. Schaus*).

Three specimens. Allied to *O. gnoma*, Butl., from Chili, from which it may be distinguished by the white lines crossing the primaries.

# COMIBÆNA.

*Comibæna*, Hübner, Verz. bek. Schmett. p. 284 (1816); Walker, Cat. xxii. p. 568.

*Phorodesma*, Boisduval, Gen. et Ind. Method. Europ. Lep. p. 179 (1840); Guenée, Sp. gén. des Léop. ix. p. 368.

The members of this genus can generally be distinguished from the other Geometrinæ by the outer margins of both wings being white or pale fawn-colour, or in some cases blotched with white or reddish-brown. It contains a large number of species, and is very widely distributed.

## 1. *Comibæna venezuelata*. (Tab. XLIX. figg. 14, 15, ♂.)

*Comibæna venezuelata*, Walk. Cat. xxii. p. 570 (♂)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*); NICARAGUA, Chontales (*Belt*); PANAMA, near the city (*J. J. Walker*).—VENEZUELA<sup>1</sup>.

The three specimens before me show considerable variation in the colour of the underside—deep yellow in the one from Mexico, pale yellow in the one from Nicaragua, and yellowish-white in the one from Panama. We figure the Nicaraguan example.

## 2. *Comibæna belisama*, sp. n. (Tab. XLIX. figg. 16, 17, ♂.)

*Male*. Primaries and secondaries of a bright deep green colour; the primaries crossed about the middle from the costal to the inner margin by a rather wide cream-coloured slightly waved line, and with the apex, outer margin, and anal angle broadly bordered with dark brown, the fringe dark brown, the costal margin edged with brown; the secondaries broadly bordered with cream-colour, and crossed from the apex to the anal angle by a wide brown line, the apex itself clouded with brown, the fringe yellowish-brown; the underside pale greenish-white, the costal margin of the primaries and the outer margin of the secondaries tinged with yellow, the apex and outer margin of the primaries broadly bordered with very dark brown, a large dark brown patch at the apex of the secondaries: head and thorax green above, pale brown beneath; legs and abdomen pale brown, the latter with three dark brown spots close to the base—one on each of the first three segments; antennæ brown. Expanse  $1\frac{1}{4}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

One specimen only of this beautiful species has been received. It is allied to *C. venezuelata*, Walk., from which it may be at once distinguished by the dark brown margin of the primaries and the differently coloured underside.

3. **Comibæna invasata.** (Tab. XLIX. fig. 18, ♂.)

*Comibæna invasata*, Walk. Cat. xxxv. p. 1611 (♂)<sup>1</sup>.

*Hab.* GUATEMALA, Dueñas, San Gerónimo (*Champion*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—COLOMBIA, Santa Marta<sup>1</sup>.

Our specimens agree perfectly with Walker's type in the British Museum. We figure a male from Dueñas.

4. **Comibæna inclusaria.**

*Thalera includaria*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 62, 82, fig. 341 (♂)<sup>1</sup>.

*Phorodesma* (?) *inclusaria*, Guen. Sp. gén. des Lép. ix. p. 371<sup>2</sup>.

*Comibæna* (?) *inclusaria*, Walk. Cat. xxii. p. 570<sup>3</sup>.

*Hab.* GUATEMALA (*mus. Staudinger*), San Gerónimo (*Champion*).—BRAZIL<sup>1 2 3</sup>.

Two specimens from Guatemala, in poor condition, whiter in colour than Herrich-Schäffer's figure.

5. **Comibæna albicoma.**

*Racheospila* (?) *albicoma*, Feld. & Rogenh. Reise der Novara, Lep. t. 127. fig. 22 (♂)<sup>1</sup>.

*Hab.* PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).—AMAZONS<sup>1</sup>.

One specimen from Chiriqui, a female, differing from the figure of Felder and Rogenhofer in having the white patch on the primaries smaller and more restricted to the anal angle; the white spot at the apex is similarly formed.

6. **Comibæna callicula**, sp. n. (Tab. XLIX. fig. 19, ♂.)

*Male.* Primaries and secondaries pale pea-green; the primaries with a large spot at the base, one at the anal angle, and one on the outer margin near the apex, and a small streak at the end of the cell, white, these markings thickly irrorated with fawn-coloured scales, the marginal line brown, the fringe fawn-colour; the secondaries with the base white, slightly irrorated with fawn-coloured scales, and with two small white spots at the end of the cell, the outer margin and a large round spot at the anal angle whitish-fawn-colour, the marginal line brown, the fringe greyish; the underside pinkish-white, without markings: head and thorax green; abdomen greenish-white, the first four segments each with a reddish-brown spot in the middle, the anus and underside white; antennæ pale fawn-colour; legs yellowish-white. Expanse  $1\frac{6}{10}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen. Allied to *C. albicoma*, but very distinct.

ANAPLODES.

*Anaploides*, Packard, in Report of the U.S. Geol. Survey of the Territ. x. p. 392 (1876).

The single species belonging to this genus is now known to extend southwards into Mexico.



1. *Anaploides pistaciaria*. (Tab. XLIX. fig. 20, ♂.)

*Anaploides pistaciaria*, Pack. in Report of the U.S. Geol. Survey of the Territ. x. p. 392, t. 13. fig. 58 (♂)<sup>1</sup>.

*Hab.* NORTH AMERICA, California<sup>1</sup>.—MEXICO, Sierra Madre de Tepic (*Richardson*), Las Vigas (*coll. Schaus*).

I have seen two specimens of this species from Mexico, and there is also an example of it in the Grote collection now in the National Museum.

## RACHEOSPILA.

*Racheospila*, Guenée, Sp. gén. des Lép. ix. p. 372 (1857); Walker, Cat. xxii. p. 581.

The species of this genus are chiefly Tropical American; fifteen are now recorded from within our limits.

1. *Racheospila albociliaria*.

*Geometra albociliaria*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 62, 82, fig. 344 (♀)<sup>1</sup>.

*Racheospila albociliaria*, Guen. Sp. gén. des Lép. ix. p. 373 (♀)<sup>2</sup>; Walk. Cat. xxii. p. 582<sup>3</sup>.

*Hab.* GUATEMALA, Volcan de Atitlan 2500 to 3500 feet, Panima in Vera Paz (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Chiriqui (*Trötsch, in mus. Staudinger*).—VENEZUELA<sup>1 2 3</sup>.

The specimen from the Volcan de Atitlan is much more heavily spotted than any of the others before me, and comes very close to *R. morbilliata*, Feld. & Rogenh. (Reise der Novara, Lep. t. 127. fig. 16), from Brazil. Some of the examples from the Volcan de Chiriqui are almost without spots. This species varies greatly in size, as well as in the distinctness of the markings.

2. *Racheospila arycanda*, sp. n. (Tab. XLIX. fig. 21, ♂.)

*Male*. Primaries and secondaries pale semihyaline-bluish-green, thickly irrorated with white spots and streaks, more especially towards the outer and inner margins; the underside greenish-white, without distinct markings: head and abdomen white, the thorax greenish-white, the antennæ and legs pale brown. Expanse  $1\frac{5}{8}$  inch.

*Hab.* COSTA RICA, Rio Sucio (*Rogers*).

One specimen. Allied to *R. stagonata*, Feld. & Rogenh., from Colombia, but of a paler green colour and much more thickly irrorated with white.

3. *Racheospila athena*, sp. n. (Tab. XLIX. fig. 22, ♂.)

*Male*. Primaries and secondaries pale semihyaline-green, thickly irrorated with white, the primaries with the end of the cell and a large patch near the apex clear white, the secondaries with the base and apex broadly white, the fringe white; the underside pinkish-white, without markings: head and thorax green; abdomen greenish-white, with three small brown tufts on the middle segments above, the base green; legs whitish; antennæ pale fawn-colour. Expanse  $1\frac{3}{4}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen. Closely allied to *R. arycanda*, but differing from it in having a large patch near the apex of both wings, and the base also of the secondaries, clear white.

4. **Racheospila calliope**, sp. n. (Tab. L. figg. 1, 2, ♂.)

*Male*. Primaries and secondaries white; the primaries crossed about the middle from the costal to the inner margin by a wide, broken, pale green band, and with a marginal brownish band extending from near the apex to the anal angle, where it is darker in colour, the fringe white; the secondaries clouded about the middle with patches of pale green, and with two round green spots on the outer margin, several green lines near the apex, and a small brown spot and a narrow similarly-coloured line at the anal angle, the marginal line black, the fringe white; the underside white, the primaries with a wide marginal black band extending from the anal angle nearly to the apex: head white, the thorax and tegulae greenish-white (the abdomen wanting), the antennae and legs pale brown. Expanse  $1\frac{3}{10}$  inch.

*Hab.* MEXICO, Coatepec (*coll. Schaus*).

One specimen. This species is very distinct from any other known to me.

5. **Racheospila mustela**, sp. n. (Tab. L. fig. 3, ♂.)

*Male*. Primaries and secondaries very pale semihyaline-pea-green, thickly irrorated with small white spots, a very indistinct waved white line crossing both wings beyond the middle, the costal and outer margins of the primaries and the outer margin of the secondaries edged with reddish-brown, the fringe pale greenish-brown; the underside whitish, almost without scales: head pale brown, the thorax and abdomen greenish-brown, the base of the antennae and the legs white. Expanse  $1\frac{5}{16}$  inch.

*Hab.* MEXICO, Orizaba (*H. J. Elwes*).

One specimen, captured by Mr. Elwes in March 1888.

6. **Racheospila capys**, sp. n. (Tab. L. fig. 4, ♂.)

*Male*. Primaries and secondaries bright pea-green, thickly irrorated with very fine silvery-white streaks; the primaries with the costal margin white from the base to near the apex, a small black spot at the end of the cell; the secondaries with a large reddish-brown triangular spot, edged with yellow on the inner margin, towards the base, and with two very fine white lines crossing from this spot to the costal margin; both wings with the marginal line red and the fringe alternately red and white; the underside greenish-white, greener along the costal margin of the primaries, the fringe reddish: head and palpi red, the thorax green; abdomen above reddish-brown, with a white spot at the base, the anus yellowish-white, beneath pale brown; antennae white; legs pale brown. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

One specimen.

7. **Racheospila astræa**, sp. n. (Tab. L. fig. 5, ♂.)

*Male*. Primaries and secondaries pale semihyaline-green, each crossed beyond the middle from the costal to the inner margin by a very fine white line and with a black dot at the end of the cell; the secondaries with a large reddish-brown oblong patch, edged with yellow on the inner side, on the inner margin; the fringe white; the underside white, the costal margin of the primaries with a greenish tinge: head and thorax pale green, the antennae, abdomen, and legs pale brown. Expanse 1 inch.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*).

Three specimens. Allied to *R. capys*, from which it may be easily distinguished by the white fringe, and by the larger and more oblong patch on the inner margin of the secondaries.



8. *Racheospila ocellata*.

*Phalæna Geometra ocellata*, Stoll, in Cramer's Pap. Exot. v. p. 156, t. 34. fig. 9<sup>1</sup>.

*Geometra ocellata*, Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1870, sep. copy, p. 46<sup>2</sup>.

*Comibæna ocellata*, Walk. Cat. xxii. p. 570<sup>3</sup>.

*Phorodesma ocellata*, Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 402<sup>4</sup>; Beitr. zur Schmett.-Fauna von Surinam, iv. p. 12<sup>5</sup>.

*Comibæna gerularia*, Hübn. Verz. bek. Schmett. p. 284<sup>6</sup>.

*Phorodesma stollaria*, Guen. Sp. gén. des Lép. ix. p. 370<sup>7</sup>.

*Racheospila marginiplaga*, Walk. Cat. xxii. p. 583<sup>8</sup>.

*Racheospila rufidorsaria*, Snell. Tijdschr. voor Ent. xvii. p. 41, t. 3. fig. 4<sup>9</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*).—COLOMBIA, Rio Magdalena<sup>9</sup>; GUIANA, Surinam<sup>1 3 4 5 7</sup>; PERU; BRAZIL<sup>8</sup>, Rio Janeiro; ANTILLES, Cuba<sup>2</sup>.

A Mexican specimen in Mr. Schaus's collection, a female, agrees well with others from Colombia and Brazil. In the southern specimens the spots and the marginal line of the wings vary in their amount of development.

9. *Racheospila atrapes*, sp. n. (Tab. L. fig. 6, ♀.)

*Female*. Primaries and secondaries very pale yellowish-green; the primaries with the costal margin whitish-brown and the outer margin broadly bordered with reddish-brown, the latter edged on the inner side with pale yellow; the secondaries bordered with reddish-brown from the apex to about the middle of the inner margin, this border edged on the inner side as far as the anal angle with pale yellow; the under-side pale greenish-white: head and antennæ brownish-white (abdomen and legs wanting). Expanse  $\frac{7}{8}$  inch.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen.

10. *Racheospila sigillaria*.

*Racheospila sigillaria*, Guen. Sp. gén. des Lép. ix. p. 375 (♂)<sup>1</sup>; Walk. Cat. xxii. p. 582<sup>2</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—URUGUAY, Monte Video<sup>1 2</sup>.

One specimen.

11. *Racheospila satisfacta*. (Tab. L. fig. 7, ♂.)

*Racheospila satisfacta*, Walk. Cat. xxii. p. 583 (♀)<sup>1</sup>.

*Hab.* GUATEMALA, Cahabon in Vera Paz (*Champion*).—BRAZIL<sup>1</sup>.

One specimen, a male, from Cahabon, agreeing very nearly with Walker's type now in the Oxford Museum.

12. *Racheospila translucidaria*.

*Geometra translucidaria*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 62, 82, fig. 343 (♂)<sup>1</sup>.

*Nemoria translucidaria*, Walk. Cat. xxii. p. 534<sup>2</sup>.

*Hab.* MEXICO, Atoyac in Vera Cruz (*H. H. Smith*).—BRAZIL<sup>1 2</sup>.

One specimen.

13. *Racheospila busa*, sp. n. (Tab. L. fig. 8, ♂.)

*Male*. Primaries very pale greenish-yellow, the costal margin from the base to beyond the middle yellowish-brown, the apex and half the outer margin dark greyish-brown, two faint fine lines crossing the wing from the costal margin to the middle of the inner margin, where they join and form a small brown spot, the fringe pale yellowish-green; secondaries very pale brownish-yellow, crossed near the base by a greenish-yellow band, an indistinct fine brown line crossing the wing below the middle from the costal to the inner margin, the fringe yellowish-brown; the underside yellowish-white, the costal margin of the primaries pale brown: head, antennæ, and collar pale brown, the thorax and abdomen yellowish-brown, the legs yellowish-white. Expanse  $\frac{3}{4}$  inch.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

This small species is allied to *R. translucidaria* (Herr.-Schäff.).

14. *Racheospila* (?) *batina*, sp. n. (Tab. L. figg. 9, 10, ♀.)

*Female*. Primaries and secondaries pale semihyaline green; the primaries with the base, a small streak at the end of the cell, and a wide band crossing from the costal margin nearly to the inner margin brownish-green; the secondaries crossed from the apex to the inner margin by a rather wide deeply dentated brownish-green band, the wing itself strongly angulated at the outer margin; the underside whitish-green, the marginal band black, the other band on both wings greenish-yellow: head and thorax pale green, the abdomen, antennæ, and legs pale fawn-colour. Expanse  $1\frac{1}{2}$  inch.

*Hab.* GUATEMALA, Las Mercedes 3000 feet (*Champion*).

One specimen. This insect has strongly angulated secondaries, but I do not think it advisable to separate it from *Racheospila* at present.

15. *Racheospila* (?) *asmura*, sp. n. (Tab. L. fig. 11, ♂.)

*Male*. Primaries and secondaries very pale hyaline-green, with a whitish shade; the primaries with a large spot on the outer margin close to the apex and another at the anal angle pale fawn-colour, these markings irrorated with very fine white scales, a small black dot at the end of the cell, the fringe fawn-colour; the secondaries broadly bordered from the apex to the anal angle with pale fawn-colour, slightly irrorated with yellowish scales, the inner margin edged with brown from the base to the anal angle, the wing itself angularly extended at the middle of the outer margin, and with two small black spots on the margin at this place; the underside greenish-white, with the markings on the upperside showing through: head and abdomen reddish-brown, the antennæ, thorax, and legs greenish-yellow. Expanse  $1\frac{3}{10}$  inch.

*Hab.* PANAMA, Chiriqui (*mus. Staudinger*).

One specimen, quite unlike any other species known to me. The extended part of the outer margin of the secondaries forms a sort of short tail, and at this part two black spots are placed.

SYNCHLORA.

*Synchlora*, Guenée, Sp. gén. des Lép. ix. p. 375 (1857); Walker, Cat. xxii. p. 585; Packard, in Report of the U.S. Geol. Survey of the Territ. x. p. 379, t. 4. figg. 9, 12 (neurulation) (1876).

*Eunemoria*, Packard, in Fifth Ann. Rep. Peabody Acad. p. 76 (1873).

This genus is widely distributed in America, ranging from the United States, where at least one species is very common, to Guiana.

Two species occur within our limits.



1. *Synchlora frondaria*.

*Synchlora frondaria*, Guen. Sp. gén. des Lép. ix. p. 376 (♂ ♀)<sup>1</sup>; Walk. Cat. xxii. p. 585<sup>2</sup>.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*), Coatepec (*coll. Schaus*), Atoyac in Vera Cruz (*H. H. Smith*); GUATEMALA, San Joaquin in Vera Paz (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—GUIANA, Cayenne<sup>1 2</sup>, Essequibo River.

2. *Synchlora* (?) *nortia*, sp. n. (Tab. L. fig. 12, ♂.)

*Male.* Primaries and secondaries pale pea-green, each crossed beyond the middle from the costal to the inner margin by a row of small white dots, and with a small black spot at the end of the cell, the marginal line reddish-brown, the fringe white; the underside greenish-white, without markings: head, thorax, abdomen, and legs greenish-brown (antennæ wanting). Expanse  $\frac{1}{2}$  inch.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*).

One specimen.

## PHYLE.

*Phyle*, Herrich-Schäffer, Samml. aussereur. Schmett. p. 62, fig. 338 (1850–58); Guenée, Sp. gén. des Lép. ix. p. 379 (1857); Walker, Cat. xxii. p. 588.

Herrich-Schäffer included a single species, *P. arcuosaria*, from Brazil, under this generic name; this insect extends northwards to Mexico.

1. *Phyle arcuosaria*.

*Phyle arcuosaria*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 62, 82, fig. 338<sup>1</sup>; Guen. Sp. gén. des Lép. ix. p. 380<sup>2</sup>; Walk. Cat. xxii. p. 589<sup>3</sup>.

*Chlorodes facetaria*, Guen. in litt.

*Hab.* MEXICO, Jalapa (*coll. Schaus, Höge*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet, Rio Sucio (*Rogers*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 2500 to 3500 feet (*Champion*).—PERU; BRAZIL<sup>2 3</sup>, Rio Janeiro<sup>1</sup>.

The underside in this species varies in colour: in some specimens it is yellowish-green, the primaries crossed beyond the middle by an orange-brown line, this line being of variable width; in others it is pale silky green, without any trace of the orange-brown line. The specimens before me clearly show that these forms belong to one species, although the two extremes look very distinct.

## TACHYPHYLE.

*Tachyphyle*, Butler, Trans. Ent. Soc. Lond. 1881, p. 329.

*Tachyphyle* has hitherto included a single species from the Amazons; a second, from Central America, is somewhat doubtfully referred to it.

1. *Tachyphyle* (?) *neis*, sp. n. (Tab. L. figg. 13, 14, ♂.)

*Male.* Primaries and secondaries pea-green, each crossed beyond the middle by a narrow brown line that extends from the costal to the inner margin; the primaries also crossed near the base by a narrow line, and with a brown dot at the end of the cell and a large reddish-brown patch above the anal angle, above which is a small spot of the same colour; the secondaries with a brown dot at the end of the cell, their

outer portion rather thickly irrorated with very fine reddish-brown streaks; the fringe green; the underside greenish-white, the primaries broadly bordered with black on the inner margin and partly along the outer margin, the secondaries crossed by two black bands—the first near the base, the second about the middle,—the bands varying greatly in width: head, thorax, and abdomen green above, whitish beneath, the antennæ brown. Expanse  $1\frac{3}{8}$  inch.

*Hab.* MEXICO, Coatepec (*coll. Schaus*); PANAMA, Chiriqui (*mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

The specimen from the Volcan de Chiriqui, from which our description and figure are taken, has the primaries more heavily marked with reddish-brown than in either of the other examples; it also has the black bands on the underside much wider than in the Mexican representative.

### AMAUURINIA.

*Amaurinia*, Guenée, Sp. gén. des Lép. ix. p. 385 (1857); Walker, Cat. xxii. p. 602.

#### 1. *Amaurinia hyperythra*.

*Amaurinia hyperythra*, Guen. Sp. gén. des Lép. ix. p. 386 (♂)<sup>1</sup>; Walk. Cat. xxii. p. 603<sup>2</sup>.

*Hab.* GUATEMALA, Las Mercedes 3000 feet (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—BRAZIL<sup>1 2</sup>.

Apparently a common insect on the Volcan de Chiriqui, but we have only received one specimen from Guatemala.

#### 2. *Amaurinia simplicearia*.

*Achlora* (?) *simplicearia*, Walk. Cat. xxii. p. 504 (♀)<sup>1</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Teleman and San Gerónimo in Vera Paz, Volcan de Atitlan (*Champion*).—AMAZONS, Santarem<sup>1</sup>.

Central-American specimens scarcely differ from Walker's type in the National Museum.

### Subfam. MECOCERINÆ.

### MECOCERAS.

*Mecoceras*, Guenée, Sp. gén. des Lép. ix. p. 388 (1857); Walker, Cat. xxii. p. 606.

#### 1. *Mecoceras nitocris*.

*Phalæna Geometra nitocris*, Cram. Pap. Exot. iii. p. 148, t. 275. fig. A<sup>1</sup>.

*Ametris nitocritaria*, Hübn. Samml. exot. Schmett. t. 220. figg. 1, 2 (♂), 3, 4 (♀)<sup>2</sup>; Verz. bek. Schmett. p. 303<sup>3</sup>.

*Mecoceras nitocritaria*, Guen. Sp. gén. des Lép. ix. p. 389<sup>4</sup>.

*Mecoceras nitocris*, Walk. Cat. xxii. p. 606<sup>5</sup>; Snell. Tijdschr. voor Ent. xvii. p. 42<sup>6</sup>; Butl. Trans. Ent. Soc. Lond. 1881, p. 331<sup>7</sup>; Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 405<sup>8</sup>; Beitr. zur Schmett.-Fauna von Surinam, iv. p. 15<sup>9</sup>.

*Hab.* MEXICO, Jalapa (*Höge*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet, Pantaleon 1700 feet, Zapote, Mirandilla 1700 feet, Cubilguitz (*Champion*); HONDURAS



(*Dyson*<sup>5</sup>); PANAMA, Volcan de Chiriqui 2000 to 3000 feet, David (*Champion*).—COLOMBIA<sup>5 6</sup>; VENEZUELA<sup>5</sup>; GUIANA, Surinam<sup>1 8 9</sup>, Cayenne<sup>4</sup>; AMAZONS<sup>4 5 7</sup>; BRAZIL<sup>4 5</sup>.

A common species in Tropical America. The large number of specimens before me do not show any variation, except in colour, some specimens being darker than others.

## 2. *Mecoceras cordovaria*.

*Ametris cordovaria*, Guen. Sp. gén. des Lép. ix. p. 388 (♂)<sup>1</sup>.

*Hab.* MEXICO, Cordova, Vera Cruz<sup>1</sup>.

Unknown to me.

## 3. *Mecoceras schausaria*.

*Mecoceras schausaria*, H. Edwards, Papilio, iv. p. 18<sup>1</sup>.

*Hab.* MEXICO, State of Vera Cruz (*Schaus*<sup>1</sup>).

Unknown to me, and not represented in Mr. Schaus's collection.

## 4. *Mecoceras aulis*, sp. n. (Tab. L. fig. 15, ♂.)

*Male.* Primaries and secondaries pale yellowish-green, slightly irrorated with white; the primaries crossed from the costal to the inner margin by two waved narrow brownish-yellow lines—the first near the base, the second about the middle,—and with two rather large greyish submarginal spots—the first close to the apex, the second about the middle of the outer margin; the secondaries crossed about the middle by a waved brownish-yellow line, which extends from the costal to the inner margin; the fringe pale yellowish-green; the underside of the primaries very much as above, but yellower in colour, that of the secondaries paler, and with a submarginal narrow waved yellowish-brown line extending from the costal to the inner margin. The female similar to the male, but with the antennæ simple. Expanse, ♂ ♀, 2 inches.

*Hab.* MEXICO, Jalapa (*M. Trujillo*; coll. *Schaus*); GUATEMALA, Zapote (*Champion*).

We have received two males of this insect, the one from Jalapa being figured. Mr. Schaus has examples of both sexes in his collection.

## Subfam. *PALYANÆ*.

## OPHTHALMOPHORA.

*Ophthalmophora*, Guenée, Sp. gén. des Lép. ix. p. 397 (1857); Walker, Cat. xxii. p. 613; Butler, Ent. Monthly Mag. xviii. p. 59.

The species of this genus are confined to Tropical America. They are most beautiful moths, their wings being highly ornamented with metallic gold and silver lines, and in some cases thickly irrorated with metallic scales. Ten species are here recorded from Central America.

## 1. *Ophthalmophora prospectata*.

*Palyas prospectata*, Snell. Tijdschr. voor Ent. xvii. p. 43, t. 3. fig. 5<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch*, in mus. *Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA<sup>1</sup>; ECUADOR.

Chiriqui specimens agree very nearly with Snellen's figure; some of them are darker than others.

**2. *Ophthalmophora melæ*, sp. n.** (Tab. L. figg. 16, ♂; 17, ♀.)

*Male*. Primaries and secondaries pale greyish-fawn-colour, very thickly irrorated with silvery scales; the primaries with a submarginal orange-yellow line extending from the costal margin to the inner margin close to the anal angle, and bordered on the inner side with silvery scales, and with a large round ocellus at the end of the cell—black, bordered with orange-yellow, and with a central silvery spot; the secondaries with a submarginal silvery line and a row of marginal black dots edged with silvery scales; the fringe pale greyish-fawn-colour; the underside pale silky greyish-white, without markings, the fringe pale greyish-brown: head, thorax, abdomen, antennæ, and legs pale greyish-white. The female very similar to the male, but much less irrorated with silvery scales, the submarginal line on the primaries more waved, the secondaries darker, and the underside yellower in tint. Expanse, ♂  $1\frac{1}{8}$ , ♀  $1\frac{3}{8}$  inch.

*Hab.* GUATEMALA (*Conradt, in mus. Staudinger*); PANAMA, Bugaba, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ECUADOR.

Allied to *O. prospectata* (Snellen), from which it may be easily distinguished by the larger ocellus at the end of the cell on the primaries. The specimens from Ecuador in my own collection are rather darker in colour than those from Central America. Our figures are taken from Chiriqui specimens.

**3. *Ophthalmophora alba*, sp. n.** (Tab. L. fig. 21, ♂.)

*Male*. Primaries and secondaries pure white; the primaries with a rather large ocellus at the end of the cell black, edged with orange-yellow and metallic gold, and a submarginal metallic gold line edged on the inner side with very pale yellow extending from the costal margin to the anal angle; the secondaries with a wide straight silvery line crossing from the apex to the anal angle, below which on the outer margin are two small black spots edged on the inner side with silvery scales; the fringe brown; the underside pure white, without markings: head, thorax, and abdomen white, the antennæ and legs pale brown. The female very similar to the male, but slightly larger. Expanse, ♂  $1\frac{1}{4}$ , ♀  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Valladolid in Yucatan (*Gaumer*).

We have only received one pair of this very distinct species.

**4. *Ophthalmophora pallicosta*.**

*Phrygionis pallicosta*, Feld. & Rogenh. Reise der Novara, Lep. t. 127. fig. 31 (♀)<sup>1</sup>; Mösehl. Verh. zool.-bot. Ges. Wien, 1881, p. 405<sup>2</sup>; Beitr. zur Schmett.-Fauna von Surinam, iv. p. 15<sup>3</sup>.

*Ophthalmophora* (?) *pallicosta*, Butl. Ent. Monthly Mag. xviii. p. 61<sup>4</sup>.

*Hab.* PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—GUIANA<sup>1 4</sup>, Paramaribo<sup>2 3</sup>.

The single specimen (♀) received from Chiriqui is brighter in colour than the figure of Felder and Rogenhofer, and has the underside bright orange-yellow, with the outer margins slightly clouded with brown. Butler<sup>4</sup> also gives "Limas" as a locality.

**5. *Ophthalmophora limboguttata*.** (Tab. L. fig. 18, ♂.)

*Chrysocestis limboguttata*, Feld. & Rogenh. Reise der Novara, Lep. t. 127. fig. 21 (♀)<sup>1</sup>.

*Hab.* MEXICO, Potrero (*Hedemann*<sup>1</sup>); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet, Balheu (*Champion*).



Felder and Rogenhofer<sup>1</sup> describe the male of this species, and also give a figure of the female.

A male from the Volcan de Atitlan is shown on our Plate.

6. *Ophthalmophora asopis*, sp. n. (Tab. L. figg. 19, ♂ ; 20, ♀.)

*Male*. Closely allied to *O. limboguttata* (Feld. & Rogenh.), from which it differs in its larger size, and also in the following particulars :—The dark patches are not irrorated with white, the ocellus on the secondaries is much more distinct, and the yellow band crossing the primaries is much wider and of a brighter yellow.

Expanse, ♂  $1\frac{1}{8}$ , ♀  $1\frac{1}{4}$  inch.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

The dark brown patches on the wings and its larger size sufficiently distinguish *O. asopis* from *O. limboguttata*; the differences between the females of the two species will be best understood by a comparison of the figures. *O. limboguttata* seems to be restricted to Mexico and Guatemala, and *O. asopis* to Chiriqui; we have received a good series of each of them.

7. *Ophthalmophora aspledon*, sp. n. (Tab. L. fig. 22, ♀.)

*Female*. Primaries dark yellowish-brown, the costal margin, apex, and outer margin, and also a spot at the anal angle, orange-yellow, an indistinct metallic line crossing the wing near the apex; secondaries orange-yellow, thickly irrorated with dark brown scales, the base dark brown, the darker colour being edged on the outer side with a line of golden scales, a submarginal row of minute metallic spots extending from the apex to the anal angle, and a small black ocellus close to the apex; the underside pale yellow, the apex and outer margin of the primaries shaded with brown; the fringe orange-yellow: head, thorax, and antennæ yellowish-brown; the abdomen orange-yellow above, pale yellow beneath; legs pale yellow. Expanse 1 inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*).

One specimen. Allied to *O. limboguttata* (Feld. & Rogenh.).

8. *Ophthalmophora amabilis*.

*Phalæna amabilis*, Cram. Pap. Exot. ii. p. 24, t. 112. fig. G<sup>1</sup>.

*Opisthoxia amabilaria*, Hübn. Verz. bek. Schmett. p. 308<sup>2</sup>.

*Ophthalmophora amabiliata*, Guen. Sp. gén. des Lép. ix. p. 399<sup>3</sup>.

*Ophthalmophora amabilis*, Walk. Cat. xxii. p. 615<sup>4</sup>; Butl. Ent. Monthly Mag. xviii. p. 61<sup>5</sup>.

*Hab.* MEXICO, Omealca near Orizaba, Cuesta de Misantla (*M. Trujillo*), Atoyac in Vera Cruz (*Schumann*), Coatepec (*coll. Schaus*); NICARAGUA, Chontales (*Belt*); PANAMA, Chiriqui (*Arcé, in mus. D.*; *Ribbe, in mus. Staudinger*), Bugaba 800 to 1500 feet, Volcan de Chiriqui 2000 to 3000 feet (*Champion*). — GUIANA, Surinam<sup>1 3 4 5</sup>; AMAZONS, Pará<sup>4 5</sup>.

A common insect at Coatepec, according to Mr. Schaus. We have received a good series of it from the Volcan de Chiriqui. Mexican specimens are generally paler than those from more southern localities.

9. *Ophthalmophora bella*. (Tab. L. fig. 23.)

*Ophthalmophora bella*, Butl. Ent. Monthly Mag. xviii. p. 60<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch*, in *mus. Staudinger*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).

In some specimens of this species the inner margin of the primaries is broadly pure white, in others it is clouded with reddish-brown scales; the black markings on the underside are also variable, and sometimes almost wanting. The type was formerly in the Norris collection, and the locality quoted by Mr. Butler<sup>1</sup> is "Limas."

10. *Ophthalmophora molpadia*, sp. n. (Tab. L. fig. 24, ♀.)

*Female.* Primaries and secondaries reddish-brown; the primaries partly crossed from the inner margin by a pale yellow band edged on the inner side with white, the band extending along the inner margin almost to the base, a small yellow streak about the middle of the costal margin, the fringe dark brown; the secondaries crossed near the base by a silvery-white line, the apex and part of the outer margin edged with yellow, the ocellus and metallic spots very much as in *O. amabilis* (Cram.); the underside white, the outer margin of the primaries broadly bordered with brown. Expanse 1½ inch.

*Hab.* PANAMA, Chiriqui (*mus. Staudinger*).

One specimen

BYSSODES.

*Byssodes*, Guenée, Sp. gén. des Lép. ix. p. 399 (1857); Walker, Cat. xxii. p. 617.

*Phrygonis*, Hübner, Verz. bek. Schmett. p. 307 (1816) (partim).

This genus, like *Ophthalmophora*, is peculiar to Tropical America.

1. *Byssodes privignaria*.

*Byssodes privignaria*, Guen. Sp. gén. des Lép. ix. p. 401 (♂)<sup>1</sup>; Walk. Cat. xxii. p. 618<sup>2</sup>.

? *Phalæna decorata*, Fabr. Ent. Syst. iii. 2, p. 173<sup>3</sup>.

*Hab.* MEXICO, Atoyac in Vera Cruz (*Schumann*), Coatepec (*coll. Schaus*); GUATEMALA, in the city (*Rodriguez*), San Gerónimo, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Ribbe*, in *mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA; TRINIDAD; ANTILLES, Jamaica<sup>3</sup>, Martinique<sup>1 2</sup>.

This species is closely allied to *B. polita* (Cram.), from which it differs in having a red spot on the outer margin of the secondaries.

2. *Byssodes appropriata*. (Tab. L. fig. 25, ♂.)

*Byssodes appropriata*, Walk. Cat. xxii. p. 619 (♂)<sup>1</sup>.

*Hab.* MEXICO<sup>1</sup>, Coatepec (*coll. Schaus*); GUATEMALA, Tamahu in Vera Paz (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe*, in *mus. Staudinger*), Volcan de Chiriqui 2000 to 4000 feet (*Champion*).

Mr. Champion captured a very large series of this species on the slope of the Volcan de Chiriqui. Our figure is taken from one of these specimens.



### 3. *Byssodes miletia*, sp. n. (Tab. L. fig. 27, ♂.)

*Male*. Primaries and secondaries dove-colour; the primaries with a small or indistinct white spot at the base, and crossed from the costal to the inner margin by two white bands—the first narrow and towards the base, the second very wide and slightly beyond the middle,—the fringe greyish-white; the secondaries partly crossed from the costal margin to near the anal angle by a wide white band, which becomes narrower behind, the anal angle clouded with orange-yellow, the outer margin partly white and with two black spots near the anal angle; the underside with the bands as above, but less distinctly marked, and the orange-yellow on the secondaries wanting: head, thorax, abdomen, legs, and antennæ pale dove-colour. The female very similar to the male, but with the white bands slightly wider; the secondaries with a narrow submarginal metallic line extending from the anal angle almost to the apex, and the outer margin from the apex to the anal angle pale yellow; the underside whiter. Expanse, ♂  $1\frac{1}{2}$ , ♀  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Jalapa (*F. D. G.*), Coatepec (*coll. Schaus*), Cuesta de Misantla (*M. Trujillo*); GUATEMALA, San Gerónimo (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

The five specimens of this species before me, one female and four males, do not show any variation, except the slight difference between the sexes. Our description and figure of the male are taken from the example captured by Mr. Godman at Jalapa.

### 4. *Byssodes saturniaria*.

*Urapteryx saturniaria*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 63, 83, fig. 414<sup>1</sup>; Guen. Sp. gén. des Lép. ix. p. 33<sup>2</sup>; Walk. Cat. xx. p. 9<sup>3</sup>; Snell. Tijdschr. voor Ent. xvii. p. 11<sup>4</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—COLOMBIA<sup>4</sup>; VENEZUELA<sup>1 2 3</sup>.

The two specimens received from our region are both females, agreeing well with the male figured by Herrich-Schäffer.

### 5. *Byssodes nævia*, sp. n. (Tab. L. fig. 26, ♂.)

*Male*. Primaries and secondaries white; the primaries crossed from the costal to the inner margin by five yellowish-fawn-coloured lines, the first four being streaked with metallic silvery scales (more distinctly so in some specimens than in others), the marginal line and fringe pale fawn-colour; the secondaries crossed beyond the middle by a single fawn-coloured line, the veins near the inner margin shaded with yellowish-fawn-colour, the anal angle broadly clouded with yellow and with two oblique metallic golden streaks extending inwards, two small greyish-black spots at the angle of the outer margin, the fringe yellowish; the underside pure white: head, thorax, abdomen, and legs white, the antennæ pale brown. The female very similar to the male. Expanse, ♂ ♀,  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Cordova (*Rümelin*), Jalapa (*M. Trujillo*), Coatepec (*coll. Schaus*); GUATEMALA, Coban (*Champion*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

This species is allied to *Urapteryx quadrifilata*, Feld. & Rogenh., = *Micronia metargyria*, Walk. (Journ. Linn. Soc., Zool. ix. p. 198). We have received a very large series of specimens of *B. nævia* from Chiriqui, which do not show any variation.

6. *Byssodes nazada*, sp. n. (Tab. L. fig. 28, ♀.)

*Female*. Primaries and secondaries pure white; the primaries crossed from the costal to the inner margin by six greyish bands, these bands edged on either side with a darker line, the second and third bands wider than the others, the sixth very narrow and not reaching the inner margin, the marginal line grey, the fringe white; the secondaries partly crossed about the middle by two yellowish-grey lines, and with a submarginal grey band edged with black on the outer side extending from the apex almost to the anal angle, the outer margin and the anal angle shaded with yellow, a faint metallic line extending from the inner margin partly round the wing, and a black spot on the outer margin; the underside pure white, the secondaries slightly clouded with grey round the outer margin: head, thorax, abdomen, antennæ, and legs greyish-white. Expanse 2 inches.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

One specimen.

## PITYEJA.

*Pityeja*, Walker, Cat. xxiii. p. 828 (1861).

1. *Pityeja histrionaria*.

*Urapteryx histrionaria*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 63, 78, figg. 71, 72<sup>1</sup>; Snell. Tijdschr. voor Ent. xvii. p. 11<sup>2</sup>.

*Pityeja histrionaria*, Walk. Cat. xxvi. p. 1625<sup>3</sup>.

*Pityeja bellaria*, Walk. Cat. xxiii. p. 829<sup>4</sup>.

*Hab.* GUATEMALA, Purula (*Champion*); COSTA RICA (*Van Patten, in mus. D.*); PANAMA, Chiriqui (*Ribbe*).—COLOMBIA<sup>2</sup>, Antioquia; VENEZUELA<sup>14</sup>.

The six specimens of this species before me show considerable variation in the colour of the secondaries, from almost white to deep orange. The females are more highly coloured than the males. A single example only has been received from Guatemala.

## CHRYSOCESTIS.

*Chrysocestis*, Hübner, Verz. bek. Schmett. p. 307 (1816); Walker, Cat. xxii. p. 619.

1. *Chrysocestis fimbriaria*.

*Phalena Geometra fimbriaria*, Cram. Pap. Exot. iv. p. 112, t. 348. fig. C<sup>1</sup>.

*Chrysocestis fimbriaria*, Walk. Cat. xxii. p. 620<sup>2</sup>.

*Palyas imperata*, Guen. Sp. gén. des Lép. ix. p. 396<sup>1</sup>.

*Chrysocestis pæcilmidia*, Butl. Trans. Ent. Soc. Lond. 1881, p. 332<sup>4</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Gerónimo, Cubilguitz, San Joaquin, and Cahabon in Vera Paz, Las Mercedes 3000 feet (*Champion*); HONDURAS (*Dyson*<sup>2</sup>; *Whitely, in mus. D.*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Arcé, in mus. D.*; *Ribbe, in mus. Staudinger*), Panama city (*J. J. Walker*).—ECUADOR; GUIANA, Essequibo River, Surinam<sup>123</sup>; AMAZONS<sup>4</sup>, Pará<sup>2</sup>; BRAZIL<sup>2</sup>, Rio Janeiro.

Cramer's figure of *C. fimbriaria* (t. 348. fig. C) shows only one row of submarginal



silvery spots, not two, as stated by Mr. Butler<sup>4</sup> when he described *C. pæcilmidia* as a distinct species. The series of over eighty specimens before me vary very slightly in the width of the outer margin.

Subfam. *GONIACIDALIINÆ*.

This subfamily was proposed by Dr. Packard [Report of the U.S. Geol. Survey of the Territ. x. p. 311 (1876)] to include three genera, *Goniacidalia*, Pack., *Calledapteryx*, Grote, and *Callizzia*, Pack., each containing a single species from the United States or Canada. One species of *Calledapteryx* has been described by Mr. H. Edwards as from Mexico; it is quite unknown to me.

*CALLEDAPTERYX*.

*Calledapteryx*, Grote, Trans. Am. Ent. Soc. ii. p. 119 (1868); Packard, in Report of the U.S. Geol. Survey of the Territ. x. p. 313, t. 3. fig. 14 (neurulation) (1876).

1. *Calledapteryx opinaterata*.

*Calledapteryx opinaterata*, H. Edwards, Papilio, iv. p. 18<sup>1</sup>.

*Hab.* MEXICO, State of Vera Cruz (*Schaus*<sup>1</sup>).

Subfam. *EPHYRINÆ*.

*EPHYRA*.

*Ephyra*, Duponchel, Hist. Nat. Lép. iv. 2, p. 108 (1829); Guenée, Sp. gén. des Lép. ix. p. 405; Walker, Cat. xxii. p. 624.

This genus is represented in nearly all parts of the world; five species occur within our limits.

1. *Ephyra punctaria*.

*Phalæna Geometra punctaria*, Stoll, in Cramer's Pap. Exot. v. p. 58, t. 12. f. 10<sup>1</sup>.

*Ephyra fartaria*, Guen. Sp. gén. des Lép. ix. p. 406<sup>2</sup>; Walk. Cat. xxii. p. 634<sup>2</sup>.

*Hab.* MEXICO, Coatepec (*Brooks*), Jalapa (*coll. Schaus*), Atoyac in Vera Cruz (*Schumann*); GUATEMALA, Zapote (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*). —GUIANA, Surinam<sup>13</sup>; BRAZIL<sup>23</sup>.

Not uncommon in Central America. It varies in colour and in the distinctness of the markings: in some specimens the spots are black and well defined; in others they are almost obsolete.

2. *Ephyra megista*, sp. n. (Tab. LI. fig. 1, ♂.)

*Male*. Primaries and secondaries reddish-fawn-colour, each crossed by two rows of very minute black spots,

and with a black marginal line, the fringe reddish-brown, a small greyish spot edged with black at the end of the cell on the secondaries; the underside pale pinkish-fawn-colour, without markings: head, thorax, and abdomen reddish-brown, the antennæ and legs pale fawn-colour.—*Female* very similar to the male, but considerably paler in colour. Expanse 1 inch.

*Hab.* GUATEMALA, Volcan de Atitlan 2500 to 3500 feet, Las Mercedes 3000 feet, Panajachel 5000 feet (*Champion*); PANAMA, Volcan de Chiriqui 2500 to 3500 feet (*Champion*).

This small species is allied to *E. punctata* (Stoll). Our figure is taken from a Guatemalan specimen.

### 3. *Ephyra citrina*, sp. n. (Tab. LI. fig. 2, ♀.)

*Female*. Primaries and secondaries pale citron-yellow; the primaries crossed from the costal to the inner margin by three waved narrow brown lines—the first near the base, the second beyond the middle, the third submarginal,—and with a large greyish-white spot edged with brown at the end of the cell (more distinct in some specimens than in others), the marginal line yellowish-brown, the fringe yellow; the secondaries crossed beyond the middle from the costal to the inner margin by two waved narrow brown lines, and with a large greyish-white spot at the end of the cell (very similar to that on the primaries), the marginal line yellowish-brown, the fringe yellow; the underside pale yellow, with the lines and spots very faintly marked: head, thorax, abdomen, and legs pale yellow (antennæ wanting). Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, San Blas (*J. J. Walker*), Paso de San Juan in Vera Cruz (*coll. Schaus*), Teapa in Tabasco (*H. H. Smith*); COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).

The single specimen from Costa Rica (without abdomen) is much smaller than the others; it is probably a male of the same species. Our description and figure are taken from the San Blas example.

### 4. *Ephyra conspicillaria*.

*Zonosoma conspicillaria*, Snell. Tijdschr. voor Ent. xvii. p. 45, t. 3. fig. 7<sup>1</sup>.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*); GUATEMALA, San Gerónimo (*Champion*); COSTA RICA, San Francisco 4500 feet (*Rogers*); PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).—COLOMBIA<sup>1</sup>.

The specimens before me agree well with Snellen's figure.

### 5. *Ephyra olivaria*.

*Zonosoma olivaria*, Snell. Tijdschr. voor Ent. xvii. p. 46, t. 3. fig. 8<sup>1</sup>.

*Hab.* MEXICO, Teapa (*H. H. Smith*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—COLOMBIA<sup>1</sup>.

Two specimens, a male and female, are all I have seen of this species from our region.

## ANISODES.

*Anisodes*, Guenée, Sp. gén. des Léop. ix. p. 415 (1857); Walker, Cat. xxii. p. 639.

Guenée included a large number of species in *Anisodes*, chiefly from South America,



Borneo, and Ceylon, and numerous others have since been added by Walker, Felder, Butler, &c. In our region it is represented by nine species, three of which are described as new. This genus is exceedingly close to *Ephyra*.

### 1. *Anisodes globaria*.

*Anisodes globaria*, Guen. Sp. gén. des Lép. ix. p. 417<sup>1</sup>; Walk. Cat. xxii. p. 642<sup>2</sup>; Butl. Trans. Ent. Soc. Lond. 1881, p. 334<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*Höge, M. Trujillo*); GUATEMALA, Las Mercedes 3000 feet (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA<sup>1 2</sup>; AMAZONS<sup>3</sup>; BRAZIL<sup>2</sup>.

We have received a good series of specimens of this species. It varies greatly in colour and size.

### 2. *Anisodes binocellaria*?

*Zonosoma binocellaria*, Herr.-Schäff. Samml. aussereur. Schmett. p. 61, fig. 351<sup>1</sup>.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*); COSTA RICA (*Van Patten*).—VENEZUELA<sup>1</sup>.

*Zonosoma binocellaria*, Herr.-Schäff., is probably quite distinct from *A. globaria*, Guen., with which Walker associates it. Two specimens, one from Mexico and one from Costa Rica, both females in very poor condition, are all I have seen of it from within our limits.

### 3. *Anisodes roseigera*.

*Epione* (?) *roseigera*, Walk. Cat. xxvi. p. 1496<sup>1</sup>.

*Hab.* COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).—BRAZIL<sup>1</sup>.

One specimen, a female, almost identical with Walker's type in the National Museum.

### 4. *Anisodes lateritiaria*.

*Zonosoma lateritiaria*, Herr.-Schäff. Samml. aussereur. Schmett. p. 61, fig. 332<sup>1</sup>; Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 406<sup>2</sup>.

*Anisodes lateritiaria*, Guen. Sp. gén. des Lép. ix. p. 418<sup>3</sup>; Walk. Cat. xxii. p. 642<sup>4</sup>; Butl. Trans. Ent. Soc. Lond. 1881, p. 333<sup>5</sup>.

*Hab.* MEXICO, Coatepec, Jalapa (*coll. Schaus*).—VENEZUELA<sup>1 3 4</sup>; GUIANA, Paramaribo<sup>2</sup>; AMAZONS<sup>5</sup>.

Three males of this very distinct species are contained in Mr. Schaus's collection.

### 5. *Anisodes prunelliaria*.

*Zonosoma prunelliaria*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 61, 81, fig. 329<sup>1</sup>.

*Anisodes prunelliaria*, Guen. Sp. gén. des Lép. ix. p. 420<sup>2</sup>; Walk. Cat. xxii. p. 642<sup>3</sup>.

*Hab.* GUATEMALA, Zapote (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000

feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3200 feet (*Champion*).—VENEZUELA<sup>1 2 3</sup>.

Amongst the six specimens received, one only is a male, this being very similar to Herrich-Schäffer's figure. The females are paler in colour.

6. **Anisodes melitia**, sp. n. (Tab. LI. fig. 3, ♀.)

*Female*. Primaries and secondaries very pale fawn-colour; the primaries with the costal margin greenish-grey, irrorated with darker scales, a small greyish spot at the end of the cell, a straight greyish-green line extending from the inner to the outer margin, and a submarginal row of very minute black dots extending from the costal margin near the apex to the inner margin; the secondaries crossed close to the base by a greenish-grey line, and with a small grey spot at the end of the cell and a submarginal row of small black spots extending from the costal to the inner margin; the marginal line of both wings black, the fringe pale fawn-colour; the underside much paler than above and almost without markings: head, thorax, abdomen, antennæ, and legs pale fawn-colour. Expanse  $1\frac{1}{2}$  inch.

*Hab.* GUATEMALA, Cerro Zunil 4000 feet, Pantaleon 1700 feet (*Champion*).

Two specimens, both females.

7. **Anisodes caletra**, sp. n. (Tab. LI. fig. 4, ♂.)

*Male*. Primaries and secondaries brownish-fawn-colour slightly irrorated with black scales, each with a small grey dot edged with black at the end of the cell and a submarginal row of small black spots, the marginal line with black points, the fringe brownish-fawn-colour; the underside pale whitish-fawn-colour, with some black dots: head, thorax, abdomen, and legs brownish-fawn-colour, the antennæ brown. The female paler in colour, and not quite so much spotted with black. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Jalapa (*coll. Schaus*); GUATEMALA, Zapote (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Our description and figure are taken from a Zapote specimen.

8. **Anisodes carbina**, sp. n. (Tab. LI. fig. 5, ♂.)

*Male*. Primaries and secondaries fawn-colour; the primaries crossed by a row of small black dots, and with a black spot at the end of the cell, and two others nearer the base of the wing, the marginal line with black points, the fringe fawn-colour; the secondaries with a rather large black spot at the end of the cell, below which the wing is crossed from the costal to the inner margin by a row of small black dots; the underside as above, but paler in colour: head, thorax, abdomen, and legs fawn-colour, the antennæ brown.—*Female* similar to the male, but rather paler, and with the row of dots crossing the wings more distinct. Expanse  $1\frac{1}{4}$  inch.

*Hab.* PANAMA, Bugaba 800 to 1500 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).

Allied to *A. caletra*.

9. **Anisodes importaria**.

*Anisodes importaria*, Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 407, t. 17. fig. 17<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Tröttsch, in mus. Staudinger*).—GUIANA, Paramaribo<sup>1</sup>.

One specimen, from Chiriqui, very similar to Möschler's figure.



Subfam. *ACIDALIINÆ*.

## ASELLODES.

*Asellodes*, Guenée, Sp. gén. des Lép. ix. p. 424 (1857); Walker, Cat. xxii. p. 654.

The two species included by Guenée in this genus extend northwards into our region. *Ephyra admirabilis*, Oberth., also belongs here.

1. *Asellodes laternaria*. (Tab. LI. fig. 8, ♀.)

*Asellodes laternaria*, Guen. Sp. gén. des Lép. ix. p. 425, Phalén. t. 21. f. 3 (♂)<sup>1</sup>; Walk. Cat. xxii. p. 654<sup>2</sup>.

*Hab.* PANAMA (*Ribbe, in mus. Staudinger*).—BRAZIL<sup>1 2</sup>.

One specimen from Panama, which I believe to be the female of Guenée's species.

2. *Asellodes fenestraria*.

*Asellodes fenestraria*, Guen. Sp. gén. des Lép. ix. p. 425<sup>1</sup>; Walk. Cat. xxii. p. 655<sup>2</sup>.

*Hab.* PANAMA, Caldera in Chiriqui 1200 feet, David (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).—COLOMBIA (?)<sup>1 2</sup>; ECUADOR.

3. *Asellodes admirabilis*.

*Ephyra admirabilis*, Oberth. Études d'Ent. vii. p. 33, t. 2. f. 10<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*).—ECUADOR; PERU, Huambo<sup>1</sup>.

## TRYGODES.

*Trygodes*, Guenée, Sp. gén. des Lép. ix. p. 426 (1857); Walker, Cat. xxii. p. 655.

Two out of the three species referred to this genus by Guenée extend northwards into Central America, whence numerous others are now added.

1. *Trygodes herbiferata*.

*Trygodes herbiferata*, Guen. Sp. gén. des Lép. ix. p. 426, Phalén. t. 15. f. 4 (♂)<sup>1</sup>; Walk. Cat. xxii. p. 655<sup>2</sup>.

*Hab.* PANAMA, Bugaba 800 to 1000 feet, Volcan de Chiriqui 2000 feet (*Champion*).—BRAZIL<sup>1 2</sup>.

Two males from Chiriqui, agreeing well with Guenée's figure.

2. *Trygodes musivaria*. (Tab. LI. figg. 6, 7, ♂.)

*Geometra musivaria*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 62, 82, f. 340 (♀)<sup>1</sup>.

*Trygodes musivaria*, Guen. Sp. gén. des Lép. ix. p. 426<sup>2</sup>; Walk. Cat. xxii. p. 656<sup>3</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—BRAZIL<sup>1 2 3</sup>.

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This species is quite distinct from *T. herbiferata*, Guen. Our figure is taken from a fine male specimen in Dr. Staudinger's collection.

### 3. *Trygodes niobe*, sp. n. (Tab. LI. figg. 9, 10, ♂.)

*Male*. Primaries and secondaries brownish-fawn-colour; the primaries with a large green patch on the inner margin close to the base, extending across the wing nearly to the costal margin, but not reaching it, a wide green streak at the end of the cell and a second streak just beyond it—the two forming a broad V-shaped mark not touching the costal margin,—and two greyish-brown waved lines crossing from the costal to the inner margin—the first beyond the cell, the second submarginal,—the green markings edged with a very fine black line, the anal angle and the middle of the outer margin clouded with greyish-brown, the marginal line black, the fringe pale brown; the secondaries irrorated with black dots at the base and along the inner margin, and with five green spots edged with black about the middle, partly in and partly below the cell, beyond which are two small black spots, two waved greyish-brown lines corresponding to those on the primaries crossing the wing from the costal to the inner margin, the marginal line black, the fringe pale brown; the underside pale fawn-colour, that of the primaries with a pinkish tinge, the waved lines as above but much more distinct, two black marks at the end of the cell on the primaries corresponding with the green one above: head, thorax, and abdomen pale fawn-colour, the underside of the latter and the legs considerably paler, the antennæ pale brown. Expanse 2 inches.

*Hab.* PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

Two males. Allied to *T. musivaria*, from which it may be at once distinguished by the differently coloured underside.

### 4. *Trygodes merta*, sp. n. (Tab. LI. fig. 11, ♂.)

*Male*. Primaries and secondaries pale greyish-fawn-colour, almost semihyaline, the outer margin of both wings broadly bordered with darker colour; the primaries with a narrow band of small green spots crossing from the end of the cell to the inner margin, beyond which is an indistinct waved line extending from the costal to the inner margin; the secondaries crossed about the middle by a band of small green spots, beyond which is an indistinct waved line extending from the costal to the inner margin; the fringe pale greyish-fawn-colour; the underside considerably paler than above, both wings with a wide submarginal broken black band and a black marginal line: head, antennæ, thorax, abdomen, and legs pale fawn-colour, the abdomen paler beneath.—*Female* slightly darker, and with the green spots much smaller and not so bright in colour. Expanse, ♂ ♀,  $1\frac{4}{5}$  inch.

*Hab.* MEXICO, Rinconada and Paso de San Juan in Vera Cruz (*coll. Schaus*); GUATEMALA, Pantaleon 1700 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*).—ECUADOR; PERU.

Allied to *T. physciata*, Feld. & Rogenh., from which it may be readily distinguished by the band of green spots crossing the wings. Our description and figure are taken from a Guatemalan specimen.

### 5. *Trygodes spoliataria*.

*Trygodes spoliataria*, Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 407, t. 17. f. 18<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—GUIANA, Surinam<sup>1</sup>.

One male from Chiriqui, only differing from Möschler's figure in being a little paler in colour.



6. *Trygodes ategua*, sp. n. (Tab. LI. fig. 12, ♂.)

*Male*. Primaries and secondaries semihyaline pale greyish-brown, thickly irrorated with minute brown scales; the primaries crossed near the base from the costal to the inner margin by a zigzag brown line, and with a second brown line beyond it, extending from the apex to the middle of the inner margin, where it almost joins the first, the wing between the two lines and along the outer margin brownish, a small brown spot at the end of the cell, the marginal line dark brown, the fringe greyish-brown; the secondaries crossed by two waved brown lines—the first before the middle, the second submarginal,—and with a small brown spot at the end of the cell, the outer margin shaded with pale greyish-brown; the underside very much as above, with the darker markings showing through: head and collar pale yellow, the thorax, abdomen, and legs pale greyish-brown, the antennæ pale brown.—*Female* with the markings much more indistinct. Expanse, ♂ ♀,  $1\frac{6}{10}$  inch.

*Hab.* MEXICO, Coatepec (*coll. Schaus*); GUATEMALA, in the city (*Rodriguez*), Las Mercedes, San Isidro, Pantaleon, San Gerónimo (*Champion*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Bugaba 800 to 1500 feet (*Champion*).

Mr. Champion obtained a large number of specimens of this species in Guatemala, which do not show any variation; from Mexico we have only seen a female in Mr. Schaus's collection. A male from San Isidro is figured.

7. *Trygodes melia*, sp. n. (Tab. LI. fig. 13, ♂.)

*Male*. Primaries and secondaries pale yellowish-grey, slightly hyaline, thickly irrorated with pale brown scales; the primaries crossed from the costal to the inner margin by two waved narrow brown lines—the first nearest the base, the second submarginal,—the outer margin clouded with brown, a small brown spot at the end of the cell; the secondaries crossed about the middle from the costal to the inner margin by a faint waved brown line; the underside paler than above, but with the apex more shaded with brown: head yellow, the thorax and abdomen pale greyish-brown, the antennæ dark brown, the legs yellowish-brown.—*Female* very similar to the male. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Coatepec, Jalapa (*coll. Schaus*); GUATEMALA, Panajachel 5000 feet (*Champion*).

Our description and figure are taken from a Guatemalan specimen.

8. *Trygodes callas*, sp. n. (Tab. LI. fig. 14, ♂.)

*Male*. Primaries and secondaries very pale brown, thickly irrorated with ochraceous scales; the primaries crossed from the costal to the inner margin by two faint waved brown lines—the first nearest the base, the second beyond the cell,—and with an indistinct brown spot at the end of the cell; the secondaries crossed from the costal to the inner margin by two waved lines—the first below the middle, the second submarginal; the marginal line of both wings dark brown and the fringe pale brown; the underside as above, but with all the lines much more distinct: head yellow in front, the thorax, tegulæ, abdomen, legs, and antennæ pale brown.—*Female* very similar to the male, but larger. Expanse, ♂  $1\frac{7}{10}$ , ♀ 2 inches.

*Hab.* PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).

Allied to, and possibly a southern form of, *T. melia*, from which it differs considerably in colour. Two examples.

9. *Trygodes carbania*, sp. n. (Tab. LI. fig. 15, ♂.)

*Male*. Primaries pale brown, thickly irrorated from the base to beyond the middle with reddish-brown scales,

three small streaks on the costal margin, a spot at the end of the cell, and two small spots close to the apex creamy-white; secondaries pale yellowish-fawn-colour, thickly irrorated on the inner margin at the anal angle and partly round the outer margin with brown and reddish-brown scales; the fringe pale brown; the underside as above, but paler in colour: head in front and the antennæ reddish-brown, the thorax, abdomen, and legs pale brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* GUATEMALA, Totonicapam 10,000 feet (*Champion*).

One male.

10. *Trygodes* (?) *auxesia*, sp. n. (Tab. LI. figg. 16, ♂; 17, ♀.)

*Male.* Primaries and secondaries semihyaline grey, thickly irrorated with ochraceous scales; the primaries crossed from the costal to the inner margin by two narrow darker lines—the first near the base, the second beyond the cell—these lines edged on the inner side with yellowish-white scales, a black dot at the end of the cell; the secondaries crossed about the middle by a narrow brown line; the fringe yellowish-grey: head pale yellow, the thorax and abdomen greyish-brown, the antennæ pale brown.—*Female* very similar to the male, but more hyaline. Expanse, ♂  $1\frac{1}{10}$ , ♀  $1\frac{3}{10}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Coatepec (*coll. Schaus*); GUATEMALA, Las Mercedes, Cerro Zunil, Panajachel, Volcan de Atitlan, San Gerónimo (*Champion*).

Apparently a common insect at Jalapa and also in Guatemala. It varies in colour from pale grey to pale yellowish-brown. We figure a pair from Guatemala.

EOIS.

*Eois*, Hübner, Verz. bek. Schmett. p. 308 (1816) (pars).

*Hyria*, Stephens, Syst. Cat. Brit. Ins., Haust. p. 150 (1829); Guenée, Sp. gén. des Lép. ix. p. 428; Walker, Cat. xxii. p. 658.

The name *Hyria* is usually adopted for this genus, though it is preoccupied in Mollusca (Lamarck, 1819).

1. *Eois pyraustaria*?

*Hyria pyraustaria*, Guen. Sp. gén. des Lép. ix. p. 429<sup>1</sup>; Walk. Cat. xxii. p. 660<sup>2</sup>; Butl. Trans. Ent. Soc. Lond. 1881, p. 336<sup>3</sup>.

*Hab.* PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—AMAZONS<sup>3</sup>; BRAZIL<sup>1 2</sup>.

Two rather worn examples from Chiriqui seem to belong to this species.

2. *Eois subtectata*. (Tab. LI. figg. 18, ♂; 19, ♀.)

*Hyria* (?) *subtectata*, Walk. Cat. xxii. p. 662 (♀)<sup>1</sup>.

*Hab.* GUATEMALA, San Gerónimo, San Isidro (*Champion*).—COLOMBIA, Bogota<sup>1</sup>.

The male differs from the female in being without the yellow band on the secondaries. Walker's type is now in the Oxford Museum.

3. *Eois carnaria*.

*Arrhostia carnaria*, Herr.-Schäff. Samml. aussereur. Schmett. p. 61, fig. 194<sup>1</sup>.



*Acidalia carnaria*, Herr.-Schäff. loc. cit. p. 80<sup>3</sup>.

*Hyria* (?) *carnaria*, Guen. Sp. gén. des Léop. ix. p. 431<sup>3</sup>; Walk. Cat. xxii. p. 662<sup>4</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe*, in *mus. Staudinger*), Obispo (*Salvin*, *mus. D.*).—  
GUIANA, Surinam<sup>1 3 4</sup>.

In the Panama specimens the yellow marginal lines are not so distinct as in Herrich-Schäffer's figure.

4. **Eois ascantia**, sp. n. (Tab. LI. fig. 20, ♀.)

*Female.* Primaries and secondaries brownish-yellow shaded with pink, their outer margins broadly bordered with dark reddish-brown; the primaries with two small hyaline spots at the end of the cell, beyond which is a rather large reddish-orange square spot, the secondaries with a hyaline streak at the end of the cell, the fringe pale yellow; the underside uniformly pale brownish-yellow: head, antennæ, thorax, and abdomen reddish-brown, the legs brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* GUATEMALA, Telemán in Vera Paz (*Champion*).

One specimen. Allied to *E. carnaria* and *E. subtectata*.

5. **Eois batea**, sp. n. (Tab. LI. fig. 21, ♂.)

*Male.* Primaries pale brown, streaked near the apex and along the inner margin with fine yellow lines, a small black dot at the end of the cell; secondaries pale brown, with the base and a rather wide band crossing from the costal margin near the apex to the inner margin slightly above the anal angle yellow, crossed by fine reddish-brown lines, a rather large black dot at the end of the cell; the fringe alternately brown and yellow; the underside much paler than above: head, thorax, and abdomen yellowish-brown, the antennæ brown, the legs pale brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* GUATEMALA, Cubilguitz in Vera Paz (*Champion*).

One specimen.

6. **Eois camma**, sp. n. (Tab. LI. fig. 22, ♀.)

*Male.* Primaries and secondaries uniform reddish-brown, with the fringe yellowish-brown; the underside much paler than above: head, antennæ, thorax, and abdomen reddish-brown. Expanse  $\frac{7}{10}$  inch.

*Hab.* GUATEMALA, Pantaleón 1700 feet (*Champion*).

One specimen.

7. **Eois triangularia**.

*Hyria triangularia*, Guen. Sp. gén. des Léop. ix. p. 429<sup>1</sup>; Walk. Cat. xxii. p. 661<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*Höge*).—BRAZIL<sup>1 2</sup>.

One specimen, identical with others from Rio Janeiro in my own collection.

8. **Eois fagenaria**.

*Hyria fagenaria*, Guen. Sp. gén. des Léop. ix. p. 430<sup>1</sup>; Walk. Cat. xxii. p. 661<sup>2</sup>.

*Hab.* GUATEMALA, San Gerónimo (*Champion*).—BRAZIL<sup>1 2</sup>.

Two specimens, both females.

9. **Eois nundina**, sp. n. (Tab. LI. figg. 23, ♂; 24, ♀.)

*Male*. Primaries yellow, crossed from the costal to the inner margin by reddish-brown lines, and also with metallic lead-coloured lines, a small black dot at the end of the cell, the fringe yellow; secondaries pale yellow, crossed by metallic lead-coloured lines, the base reddish-brown, a submarginal pale brownish band extending from the costal margin to the anal angle, the fringe yellow; the underside much paler than above and entirely without the lead-coloured lines: head, thorax, and the basal part of the abdomen reddish-brown, the rest of the latter pale yellow; the antennæ pale brown, the legs yellowish-brown. —*Female* usually more strongly marked. Expanse, ♂  $\frac{3}{4}$ , ♀  $\frac{5}{16}$  inch.

*Hab.* MEXICO, Jalapa (*coll. Schaus*); GUATEMALA, Senahu in Vera Paz (*Champion*); COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).

The Mexican specimen in Mr. Schaus's collection is a female; it is not so strongly marked as either of those figured, the band on the secondaries being very indistinct.

10. **Eois ops**, sp. n. (Tab. LI. figg. 25, ♂; 26, ♀.)

*Male*. Primaries and secondaries yellow; the primaries crossed near the base from the costal to the inner margin by a number of very fine brown lines, and with a black spot at the end of the cell, beyond which two rather broad reddish-brown bands cross the wing, the brown bands with several very fine lead-coloured lines; the secondaries crossed by two wide reddish-brown bands—the first near the base, the second submarginal,—between which is a row of very indistinct reddish-brown spots, the bands with lead-coloured lines; the fringe pale yellow; the underside very pale yellow, the primaries shaded with pale brown: head, thorax, and abdomen yellow, the antennæ greyish-brown.—*Female* darker in colour and without the lead-coloured lines. Expanse, ♂  $\frac{9}{16}$ , ♀  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Atoyac in Vera Cruz (*Schumann*); GUATEMALA, San Isidro 1600 feet (*Champion*).

Allied to *E. nundina*.

11. **Eois cassandra**, sp. n. (Tab. LI. fig. 27, ♂.)

*Male*. Primaries and secondaries reddish-fawn-colour, each crossed from the costal to the inner margin by fine waved darker brown lines and with the outer margin broadly edged with bright yellow, the fringe yellow, the primaries with a small black spot at the end of the cell; the underside much paler than above and with the lines more distinct: head, thorax, abdomen, and antennæ reddish-fawn-colour, the underside of the thorax and abdomen and the legs pale greyish-yellow. Expanse 1 inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

Allied to *E. ops*, but very distinct in colour and markings.

12. **Eois (?) œno**, sp. n. (Tab. LI. fig. 28, ♀.)

*Female*. Primaries and secondaries greyish-brown; the primaries shaded with red near the base, and with a double row of small reddish spots extending from the costal margin near the apex to the anal angle and a distinct white spot at the end of the cell, the marginal line dark brown, the fringe yellow; the secondaries crossed near the base by a wide reddish band, below which are two rows of small reddish spots, a distinct white dot at the end of the cell, the marginal line brown, the fringe yellow; the underside pale pinkish-grey, with the white spots as above, both wings with a faint waved brown submarginal line extending from the costal to the inner margin: head, thorax, and abdomen above greyish-brown, much paler beneath, the legs yellowish. Expanse 1 inch.

*Hab.* MEXICO, Jalapa (*coll. Schaus*).



One rather worn specimen, not showing distinctly the marking near the base of the primaries.

13. **Eois(?) catana**, sp. n. (Tab. LI. fig. 29, ♀.)

*Female*. Primaries and secondaries very pale greyish-brown, each crossed from the costal to the inner margin by fine waved darker lines, and with a dark brown spot at the end of the cell, the fringe pale yellow; the underside much paler than above. Expanse  $1\frac{1}{10}$  inch.

*Hab.* GUATEMALA, Zapote (*Champion*).

One specimen.

CLETA.

*Cleta*, Duponchel, Cat. Méthod. des Lép. p. 271 (1884); Guenée, Sp. gén. des Lép. ix. p. 441; Walker, Cat. xxii. p. 678.

1. **Cleta(?) minuta**, sp. n. (Tab. LI. fig. 30, ♂.)

*Male*. Primaries and secondaries cream-colour, thickly irrorated with brown scales; the primaries crossed from the costal to the inner margin by three dark brown lines—the first close to the base, the second about the middle, the third submarginal,—the outer margin brown, the fringe pale brown; the secondaries crossed by two dark brown lines—the first near the base, the second below the middle,—the fringe cream-colour; the underside very much as above, but paler, with the lines and markings of a redder tint: head and thorax brown, the abdomen brownish-cream-colour irrorated with brown scales, the antennæ dark brown, the legs brownish-cream-colour. Expanse  $\frac{7}{10}$  inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

Our description and figure are taken from a Costa Rican specimen.

CAMBOGIA.

*Cambogia*, Guenée, Sp. gén. des Lép. ix. p. 431 (1857); Walker, Cat. xxii. p. 668; Snellen, Tijdschr. voor Ent. xvii. p. 47.

Guenée included seven species in this genus, all from Tropical South America; others have since been described by Walker, Felder, Snellen, and Möschler. We are now able to trace several of the species northwards as far as Mexico.

1. **Cambogia heliadaria**.

*Cambogia heliadaria*, Guen. Sp. gén. des Lép. ix. p. 432<sup>1</sup>; Walk. Cat. xxii. p. 668<sup>2</sup>; Snell. Tijdschr. voor Ent. xvii. p. 47, t. 3. f. 9<sup>3</sup>.

*Acidalia expressaria*, Walk. Cat. xxii. p. 742<sup>4</sup>.

*Cambogia mexicaria*, Walk. Cat. xxv. p. 1618<sup>5</sup>.

*Hab.* MEXICO, Oaxaca (*Sallé*<sup>5</sup>), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Zapote (*Champion*); HONDURAS (*Dyson*<sup>4</sup>); COSTA RICA, Caché, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Bugaba 800 to 1500 feet, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA<sup>3</sup>; GUIANA<sup>1 2</sup>; BRAZIL<sup>1 2</sup>.

Varies greatly in the distinctness of the markings.

2. **Cambogia obada**, sp. n. (Tab. LII. figg. 1, ♂; 2, ♀.)

*Male*. Primaries and secondaries brownish-yellow; the primaries with a wide brown streak extending from the base to the outer margin, this streak divided into two at the end of the cell, and with the costal portion extending to the apex, the wing also crossed from the costal to the inner margin by fine waved brown lines, and with an indistinct submarginal lead-coloured line; the secondaries with a wide brown streak extending from the end of the cell to the outer margin, a dark reddish-brown band crossing near the base, and a series of very fine waved brown lines crossing from the costal to the inner margin; the fringe alternately brown and yellow: head, thorax, abdomen, antennæ, and legs brownish-yellow.—*Female* much paler in colour. Expanse, ♂ ♀,  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*).

Allied to *C. heliadarica*.

3. **Cambogia numida**, sp. n. (Tab. LII. fig. 3, ♂.)

*Male*. Primaries and secondaries pale yellow; the primaries crossed from the base to about the middle by a series of fine waved brown lines, and slightly beyond the middle by a rather wide broken brown band, a large brown spot on the outer margin, the latter marked with very small brown dots; the secondaries crossed by rows of small spots, and with two large square brown spots on the inner margin, and a submarginal brown band; the fringe alternately yellow and brown: head, thorax, abdomen, and legs yellowish-brown, the antennæ brown.—*Female* very similar to the male. Expanse 1 inch.

*Hab.* MEXICO, Coatepec (*coll. Schaus*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Isidro 1600 feet, San Juan in Vera Paz, Cubilguitz (*Champion*).

Of this species we have received a large series of specimens, which vary considerably in colour, and in the distinctness of the markings. We figure a male from Teapa.

4. **Cambogia russearia**.

*Eois russearia*, Hübn. Zutr. Samml. exot. Schmett. i. p. 27, figg. 155, 156<sup>1</sup>.

*Cambogia russearia*, Guen. Sp. gén. des Léop. ix. p. 432<sup>2</sup>; Walk. Cat. xxii. p. 669<sup>3</sup>; Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 408<sup>4</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Cerro Zunil 4000 to 5000 feet, San Isidro 1600 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Bugaba 800 to 1500 feet, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).—GUIANA, Surinam<sup>1 3</sup>, Cayenne<sup>2 3</sup>, Paramaribo<sup>4</sup>; BRAZIL.

5. **Cambogia tegularia**.

*Cambogia tegularia*, Guen. Sp. gén. des Léop. ix. p. 433<sup>1</sup>; Walk. Cat. xxii. p. 670<sup>2</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*), Jalapa (*coll. Schaus*); GUATEMALA, Las Mercedes 3000 feet, Cerro Zunil 4000 to 5000 feet, San Isidro 1600 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe*).—BRAZIL<sup>1 2</sup>, Rio Janeiro.

6. **Cambogia apyraria**.

*Cambogia apyraria*, Guen. Sp. gén. des Léop. ix. p. 433<sup>1</sup>; Walk. Cat. xxii. p. 670<sup>2</sup>; Snell. Tijdschr. voor Ent. xvii. p. 50<sup>3</sup>.



*Hab.* GUATEMALA, Teleman in Vera Paz (*Champion*). — COLOMBIA<sup>3</sup>; GUIANA, Cayenne<sup>1 2</sup>.

One specimen, from the Polochic Valley.

### 7. *Cambogia insignata*.

*Cambogia insignata*, Walk. Cat. xxii. p. 670<sup>1</sup>.

*Cambogia leprosa*, Feld. & Rogenh. Reise der Novara, Lep. t. 128. fig. 36<sup>2</sup>.

*Hab.* MEXICO, Cordova (*Hedemann*<sup>2</sup>, *Rümeli*), Jalapa (*coll. Schaus*); GUATEMALA, San Gerónimo, Panima, and Senahu in Vera Paz, Las Mercedes 3000 feet, San Isidro 1300 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*).—VENEZUELA<sup>1</sup>; BRAZIL<sup>2</sup>.

A very common species in Guatemala, varying considerably in size and colour and in the distinctness of the markings.

### 8. *Cambogia occia*, sp. n. (Tab. LII. fig. 4, ♂.)

*Male*. Primaries and secondaries pale yellow, each crossed by a dark brown wide line; the primaries with a reddish-brown dot at the end of the cell, and numerous fine orange-yellow lines crossing from the costal to the inner margin, the costal margin shaded with reddish-brown; the secondaries crossed by rows of small orange-yellow spots, a small dark brown dot at the end of the cell, and several small brown spots on the outer margin; the underside much paler than above: head, thorax, and abdomen reddish-brown, the antennæ brown, the legs yellowish. Expanse  $1\frac{1}{4}$  inch.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

*C. occia* may possibly be an extreme form of *C. insignata*, Walk.; it varies slightly in the distinctness of the markings. Our description and figure are taken from a strongly-marked Costa Rican specimen.

### 9. *Cambogia odatis*, sp. n. (Tab. LII. fig. 5, ♂.)

*Male*. Primaries and secondaries brownish-yellow, each crossed by darker waved lines, which in some specimens are broken into spots, and in others form a rather wide indistinct band, the fringe orange-yellow; the underside very much as above, but much paler: head, thorax, and abdomen yellowish-brown, the antennæ brown.—The *female* very similar to the male. Expanse 1 inch.

*Hab.* MEXICO, Coatepec (*coll. Schaus*); GUATEMALA, Panima in Vera Paz, Las Mercedes 3000 feet, Cerro Zunil 4000 feet, San Isidro 1600 feet, Zapote (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

This species is common throughout the greater part of our region. It varies in size and colour and in the distinctness of the markings. Our description and figure are taken from a Zapote specimen.

### 10. *Cambogia numeria*, sp. n. (Tab. LII. fig. 6, ♂.)

*Male*. Primaries and secondaries orange-brown, each crossed from the costal to the inner margin by three narrow yellow waved lines,—the first near the base, the second beyond the middle, the third submarginal and almost broken up into small spots,—and with a marginal row of yellow spots extending from the

apex to the anal angle, the base of the primaries irrorated with small yellow dots, the fringe orange-brown and yellow; the underside much paler than above and with the lines very indistinct: head, thorax, abdomen, and legs orange-brown, the antennæ dark brown. Expanse  $\frac{9}{10}$  inch.

*Hab.* GUATEMALA, Las Mercedes 3000 feet (*Champion*).

One specimen. Allied to *C. odatis*.

11. **Cambogia nucula**, sp. n. (Tab. LII. fig. 7, ♂.)

*Male.* Primaries and secondaries reddish-brown, each with a broken yellow line crossing beyond the middle from the costal to the inner margin, the fringe yellowish-brown; the underside paler than above: head, thorax, and abdomen reddish-brown, the antennæ brown. Expanse 1 inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen. Allied to *C. numeria*.

12. **Cambogia** —?

*Hab.* GUATEMALA, Zapote (*Champion*); COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).

Three worn specimens of an apparently distinct species, but not in sufficiently good condition for description.

13. **Cambogia cedon**, sp. n. (Tab. LII. fig. 8, ♂.)

*Male.* Primaries and secondaries pale yellow, each crossed near the base by indistinct fine brownish lines; the primaries with a wide brown band crossing beyond the middle from the costal margin to very near the inner margin but not reaching it, the outer margin and the fringe yellow; the secondaries with a large brown spot on the inner margin extending across the middle almost to the costal margin, the fringe yellow; the underside paler than above, with the dark brown band very distinct: head white in front, the collar, thorax, abdomen, and legs yellow, the antennæ pale brown. Expanse 1 inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Isidro 1600 feet, Zapote, San Gerónimo (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

This species varies in colour, some specimens being much darker than others. It may be distinguished from all other members of the genus known to me by the broad reddish-brown blotches on both wings. We figure a specimen from San Isidro.

14. **Cambogia (?) necula**, sp. n. (Tab. LII. fig. 9, ♂.)

*Male.* Primaries and secondaries reddish-fawn-colour; the primaries crossed from the costal to the inner margin by four narrow waved dark brown lines, and with a submarginal zigzag yellow line extending from the costal margin close to the apex to the inner margin at the anal angle, the apex broadly bordered with yellow, two silvery-white spots at the end of the cell; the secondaries crossed by three waved dark brown lines—the first near the base, the second and third beyond the middle,—and with a submarginal zigzag line extending from the apex to the inner margin just above the anal angle, and two silvery-white spots at the end of the cell; the fringe alternately reddish-brown and yellow; the underside much paler than above, with all the lines very indistinct: head, thorax, abdomen, and antennæ reddish-fawn-colour, the legs paler. Expanse  $\frac{7}{10}$  inch.

*Hab.* PANAMA, San Feliz (*Champion*).



Two specimens, one much paler than the other. Our figure is taken from the darker one.

## ASTHENA.

*Asthena*, Hübner, Verz. bek. Schmett. p. 310 (1816); Guenée, Sp. gén. des Lép. ix. p. 434; Walker, Cat. xxii. p. 673; Packard, in Report of the U.S. Geol. Survey of the Territ. x. p. 324, t. 4. fig. 2 (neurulation) (1876).

Walker in his Catalogue included nine species in this genus; others have since been described by Snellen and Packard, and we now add two from our region.

1. *Asthena carnana*, sp. n. (Tab. LII. figg. 10, ♂; 11, ♀.)

*Male*. Primaries and secondaries brownish-fawn-colour; the primaries with a small black dot at the end of the cell, an indistinct submarginal yellow line broken into spots extending from near the apex to the inner margin (in some specimens this is much more distinct than in others), and some very minute yellow spots on the outer margin, the marginal line dark brown; the secondaries crossed below the middle from the apex to the anal angle by two rows of round yellow dots, the marginal line dark brown; the fringe alternately brown and yellow; the underside of the primaries very much paler than above, and with the yellow markings considerably larger, that of the secondaries pale yellowish-white, with the marginal line dark brown.—*Female* with the yellow spots and lines much more distinct. Expanse, ♂ ♀, 1 inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, Las Mercedes 3000 feet (*Champion*).

The Mexican example, a male, is paler, and has the yellow markings larger than in the Guatemalan specimens, a pair of which we figure. Allied to *A. relaxata*, Snell.

2. *Asthena neclas*, sp. n. (Tab. LII. fig. 12, ♂.)

*Male*. Primaries and secondaries reddish-fawn-colour, each crossed by fine waved reddish lines; the primaries with the costal margin, apex, and a streak on the middle of the outer margin shaded with blackish-brown, and with a round black dot in the cell, beyond which a pale waved line clouded with black on the inner side crosses the wing from the costal to the inner margin; the secondaries crossed about the middle by a waved black line almost broken into dots; the outer margin of both wings with black points; the fringe yellowish-brown; the underside paler than above: head, thorax, abdomen, and legs reddish-fawn-colour, the antennæ brown.—*Female* very similar to the male. Expanse, ♂ ♀,  $1\frac{1}{10}$  inch.

*Hab.* GUATEMALA, Las Mercedes 3000 feet (*Champion*).

Three specimens, one male and two females.

## ACIDALIA.

*Acidalia*, Treitschke, Schmett. von Europa, vi. 2. p. 5 (1828); Guenée, Sp. gén. des Lép. ix. p. 444; Walker, Cat. xxii. p. 680; Packard, in Report of the U. S. Geol. Surv. of the Territ. x. p. 326, t. 4. figg. 3, 3 *a-c*, t. 6. fig. 21 (neurulation).

This genus includes a very large number of species from all parts of the world; thirty-three are here recorded from within our limits\*.

\* I have not been able to find some of Walker's types in the National Collection, and it is possible that I have redescribed one or two of his species.

### 1. *Acidalia enucleata*.

*Acidalia enucleata*, Guen. Sp. gén. des Lép. ix. p. 505, Phalén. t. 12. fig. 3<sup>1</sup>; Walk. Cat. xxii. p. 201<sup>2</sup>; Pack. in Report of the U.S. Geol. Survey of the Territ. x. p. 347, t. 10. fig. 67<sup>3</sup>.

*Hab.* NORTH AMERICA, Canada<sup>2</sup>, Maine to Texas<sup>3</sup>.—MEXICO, Jalapa, Coatepec (*coll. Schaus*).

Mr. Schaus's specimens agree well with those in the Grote collection in the National Museum, but not with Guenée's figure.

### 2. *Acidalia compensata*.

*Acidalia compensata*, Walk. Cat. xx. p. 724<sup>1</sup> (reprinted in Pack. in Report of the U.S. Geol. Survey of the Territ. x. p. 354).

*Hab.* NORTH AMERICA, East Florida<sup>1</sup>.—MEXICO, State of Durango (*Forrer*), Cuernavaca in Morelos (*H. H. Smith*), Jalapa (*Höge, M. Trujillo, and coll. Schaus*); GUATEMALA, Cubilguitz, Senahu, Purula, Sabo, and San Gerónimo in Vera Paz, El Tumbador, Las Mercedes, Cerro Zunil, Calderas (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet, San Francisco 4500 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 4000 feet (*Champion*).

This species varies greatly in colour and in the distinctness of the markings, some specimens being almost white, others fawn-coloured, almost every shade between the two being represented in our large series.

### 3. *Acidalia umbilicata*.

*Acidalia umbilicata*, Guen. Sp. gén. des Lép. ix. p. 504<sup>1</sup>; Walk. Cat. xxii. p. 727<sup>2</sup>.

*Acidalia indoctaria*, Walk. Cat. xxii. p. 731<sup>3</sup>.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*), Cuesta de Misantla (*M. Trujillo*), Rio Papagaio, Venta de Zopilote, Dos Arroyos, and La Venta in Guerrero, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*), Paso de San Juan in Vera Cruz (*coll. Schaus*); GUATEMALA, Cahabon, Panzos, San Joaquin, San Gerónimo, Coatepeque, Zapote (*Champion*); HONDURAS, Ruatan I. (*Gaumer*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—VENEZUELA<sup>3</sup>; ANTILLES, Haiti<sup>1</sup> and San Domingo<sup>2</sup>, Jamaica<sup>2</sup>.

A very common species in our region. It varies slightly in colour, some specimens being darker than others.

### 4. *Acidalia botydata*.

*Acidalia botydata*, Walk. Cat. xxii. p. 727<sup>1</sup>.

*Hab.* MEXICO, La Venta in Guerrero 300 feet (*H. H. Smith*).—ANTILLES, San Domingo<sup>1</sup>.

One specimen, inseparable from Walker's type in the British Museum.



### 5. *Acidalia subquadrata*.

*Acidalia subquadrata*, Guen. Sp. gén. des Lép. ix. p. 459<sup>1</sup>; Walk. Cat. xxii. p. 729<sup>2</sup>.

*Acidalia confertaria*, Walk. Cat. xxii. p. 733<sup>3</sup>.

*Acidalia apparitaria*, Walk. loc. cit.<sup>4</sup>

*Hab.* MEXICO, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*), Jalapa (*Höge*); GUATEMALA, San Juan, Panima, Cahabon, and San Gerónimo in Vera Paz, Coatepeque, Las Mercedes, San Isidro, Zapote (*Champion*); HONDURAS (*Dyson*<sup>34</sup>); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—GUIANA, Cayenne<sup>12</sup>; BRAZIL<sup>123</sup>.

Common in Southern Mexico and Guatemala, varying considerably in the distinctness of the markings on both wings.

### 6. *Acidalia*(?) *obrimo*, sp. n. (Tab. LII. fig. 13.)

Primaries and secondaries pale greyish-fawn-colour, each crossed from the costal to the inner margin by darker brown lines and bands, and with a submarginal waved white line, the marginal line dark brown, the fringe pale fawn-colour; the underside very much as above, but with the brown bands darker: head, thorax, and abdomen pale greyish-brown. Expanse  $\frac{9}{16}$  inch.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*).

Three specimens, all of which are without antennæ.

### 7. *Acidalia cavana*, sp. n. (Tab. LII. fig. 14.)

*Male.* Primaries and secondaries pale brownish-white slightly irrorated with darker scales, each crossed by three narrow brown lines—the first nearest the base, the second about the middle, the third, which is more waved than either of the others, submarginal,—and with a small dot at the end of the cell, the marginal line brown; the underside very much as above: head, antennæ, thorax, and abdomen pale brownish-white, the legs pale brown. Expanse  $\frac{6}{10}$  inch.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*).

Four specimens, three of which are in poor condition.

### 8. *Acidalia eupitheciata*.

*Acidalia eupitheciata*, Guen. Sp. gén. des Lép. ix. p. 461<sup>1</sup>; Walk. Cat. xxii. p. 729<sup>2</sup>.

*Hab.* MEXICO, Atoyac in Vera Cruz (*Schumann*), Amula in Guerrero, Teapa in Tabasco (*H. H. Smith*).—AMAZONS, Ega<sup>2</sup>; BRAZIL<sup>12</sup>.

We have received a large series of this species from Amula, but only one or two specimens from each of the other localities.

### 9. *Acidalia spernata*.

*Acidalia spernata*, Walk. Cat. xxii. p. 730<sup>1</sup>.

*Hab.* HONDURAS (*Dyson*<sup>1</sup>).—VENEZUELA<sup>1</sup>.

I am unable to find the types of this species in the National Collection.

10. **Acidalia onca**, sp. n. (Tab. LII. fig. 15.)

*Male*. Primaries and secondaries very pale greyish-brown, thickly irrorated with darker scales; the primaries crossed from the costal margin to the anal angle by a rather wide, slightly darker submarginal band, and with a small black dot at the end of the cell; the fringe greyish-white; the underside very much as above: head, thorax, and abdomen pale greyish-brown.—*Female* very similar to the male. Expanse  $\frac{6}{10}$  inch.

*Hab.* MEXICO, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*).

A small species allied to *A. eupitheciata*, Guen., and apparently peculiar to Mexico. We figure a specimen from Atoyac.

11. **Acidalia celenna**, sp. n. (Tab. LII. fig. 16.)

Primaries and secondaries pure white; the primaries broadly bordered on the costal margin from the base to the apex with reddish-brown, a very distinct reddish-brown spot on the middle of the inner margin, round which the wing is slightly irrorated with reddish-brown scales; the secondaries crossed by two pairs of indistinct brownish spots; both wings with a marginal row of small reddish-brown dots; the fringe long, white; the underside white, entirely without spots, the costal margin of the primaries as above but much paler: head, palpi, and antennæ brown, the collar, thorax, abdomen, and legs white. Expanse  $\frac{6}{10}$  inch.

*Hab.* GUATEMALA, Cubilguitz in Vera Paz (*Champion*); PANAMA, Bugaba 800 to 1500 feet (*Champion*).

A very distinct species. Our figure is taken from a Bugaba specimen.

12. **Acidalia (?) enona**, sp. n. (Tab. LII. fig. 17.)

Primaries and secondaries yellow; the primaries with the costal margin to the apex broadly banded with reddish-brown, the inner portion of the wing slightly irrorated with reddish-brown scales; the secondaries crossed by two broken reddish-brown bands; the fringe very long, yellow: head, thorax, and abdomen reddish-brown, the latter yellowish near the anus and on the underside, the legs pale yellowish-white. Expanse  $\frac{6}{10}$  inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*).

One rather worn specimen, captured by Mr. Herbert Smith in March 1888. This peculiar species has very narrow wings, but it comes near *A. celenna*.

13. **Acidalia carna**, sp. n. (Tab. LII. fig. 18.)

*Male*. Primaries and secondaries pale brownish-grey irrorated with darker scales, each with a very distinct small brown dot at the end of cell and a submarginal row of small brown spots, the marginal line brown, the fringe grey; the underside very much as above, but with the primaries darker: head, antennæ, thorax, abdomen, and legs pale greyish-brown. Expanse  $\frac{1}{2}$  inch.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen. This small species also has very narrow wings.

14. **Acidalia eburneata**.

*Acidalia eburneata*, Guen. Sp. gén. des Léop. ix. p. 474<sup>1</sup>; Walk. Cat. xxii. p. 734<sup>2</sup>.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*), Morelia (*F. D. G.*), Tierra Colorada in Guerrero, Cuernavaca in Morelos, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Chiacam, San Gerónimo, Dueñas, Zapote (*Champion*); COSTA RICA, Volcan



de Irazu 6000 to 7000 feet, San Francisco (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—BRAZIL<sup>1 2</sup>.

Varies in the distinctness of the small black dots on the wings, some specimens being almost entirely white, others thickly spotted.

### 15. *Acidalia figurinata*.

*Acidalia figurinata*, Guen. Sp. gén. des Lép. ix. p. 473<sup>1</sup>; Walk. Cat. xxii. p. 734<sup>2</sup>.

*Hab.* HONDURAS (*Dyson*<sup>2</sup>).—VENEZUELA<sup>2</sup>; AMAZONS<sup>1 2</sup>; BRAZIL<sup>2</sup>.

### 16. *Acidalia delotaria*.

*Hemalea delotaria*, Hübn. Zutr. Samml. exot. Schmett. ii. p. 11, figg. 235, 236<sup>1</sup>.

*Acidalia delotaria*, Guen. Sp. gén. des Lép. ix. p. 484<sup>2</sup>; Walk. Cat. xxii. p. 736<sup>3</sup>.

*Hab.* MEXICO, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Zapote (*Champion*); COSTA RICA, Rio Sucio (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—GUIANA, Surinam<sup>1 2 3</sup>.

We have only received four specimens of this species.

### 17. *Acidalia nursica*, sp. n. (Tab. LII. fig. 19.)

Primaries and secondaries brownish-grey, crossed by faint brown lines, the costal and outer margins of the primaries and the outer margin of the secondaries edged with reddish-brown, the primaries with a distinct brown spot just above the anal angle, the fringe yellowish-brown; the underside greyish-white, without markings of any kind: head, thorax, and antennæ brownish-grey (the abdomen and legs wanting). Expanse  $\frac{3}{4}$  inch.

*Hab.* PANAMA (*Ribbe, in mus. Staudinger*).

One specimen.

### 18. *Acidalia olmia*, sp. n. (Tab. LII. fig. 20.)

*Female*. Primaries and secondaries pale cream-colour, slightly irrorated with reddish-fawn-coloured scales; the primaries with the base and the costal and outer margins bordered with reddish fawn-colour, a waved fawn-coloured line crossing the wing about the middle from the costal to the inner margin; the secondaries crossed about the middle from the costal to the inner margin by a waved fawn-coloured line, and with the outer margin from the apex to the anal angle bordered with fawn-colour; the fringe reddish-fawn-colour; the underside paler than above, and with the markings very indistinct: head and thorax cream-colour, the abdomen pale fawn-colour, the antennæ and legs fawn-colour. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*).

Allied to *A. delotaria*, from which it may be at once distinguished by the dark margin to the wings.

### 19. *Acidalia longipennata*.

*Acidalia longipennata*, Paek. Fifth Rep. Peabody Acad. Sc. p. 71 (1873)<sup>1</sup>; Report of the U.S. Geol. Survey of the Territ. x. p. 332, t. 10. fig. 47<sup>2</sup>.

*Hab.* NORTH AMERICA, Texas<sup>1 2</sup>.—MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

One specimen, captured by Mr. Smith in August 1888.

20. ***Acidalia cazeca***, sp. n. (Tab. LII. fig. 21.)

*Female*. Primaries and secondaries white, thickly irrorated with grey scales, each crossed beyond the middle from the costal to the inner margin by two waved grey lines, and with a marginal grey line, the fringe white: head, thorax, and abdomen white, the antennæ and legs brownish-white. Expanse  $1\frac{1}{10}$  inch.

*Hab.* MEXICO, Jalapa, Coatepec (*coll. Schaus*).

Two specimens, one much more distinctly marked than the other.

21. ***Acidalia catenes***, sp. n. (Tab. LII. fig. 22.)

*Male*. Primaries and secondaries greyish-white, thickly irrorated with dark grey scales; the primaries crossed from the costal to the inner margin by three waved greyish lines—the first about the middle of the cell, the second and third beyond it,—and with a very indistinct waved greyish line extending from the apex almost to the anal angle, the marginal line with black points; the secondaries crossed by grey lines corresponding to those on the primaries, and with a small black dot at the end of the cell, the marginal line with black points; the fringe grey; the underside with the base of the primaries darker and all the markings more distinct: head, thorax, and abdomen greyish-white, the antennæ and legs brownish. Expanse 1 inch.

*Hab.* MEXICO, Northern Sonora (*Morrison*).

One specimen. Allied to *A. cazeca*.

22. ***Acidalia privata***. (Tab. LII. fig. 23.)

*Acidalia privata*, Walk. Cat. xxii. p. 738<sup>1</sup>.

*Acidalia impropriaria*, Walk. loc. cit.<sup>2</sup>

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, El Tumbador, Las Mercedes, Cerro Zunil, Zapote, Purula, Panzos (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—VENEZUELA<sup>1 2</sup>.

Varies in colour from white to pale brownish-white. We figure a specimen from Chiriqui.

23. ***Acidalia suffundaria***.

*Acidalia suffundaria*, Walk. Cat. xxii. p. 741<sup>1</sup>.

*Hab.* HONDURAS (*Dyson*<sup>1</sup>).

The type of this species cannot now be found in the National Collection.

24. ***Acidalia calidata***. (Tab. LII. fig. 24.)

*Acidalia* (?) *calidata*, Walk. Cat. xxvii. p. 1599<sup>1</sup>.

*Hab.* GUATEMALA, Volcan de Atitlan 2500 to 3500 feet, Panima in Vera Paz (*Champion*); PANAMA, Bugaba 800 to 1500 feet (*Champion*)—AMAZONS<sup>1</sup>.



From Guatemala we have received six specimens, but only one, a male, from Panama. Our figure is taken from one of the former.

25. ***Acidalia concoloraria*.**

*Acidalia concoloraria*, Dogn. Le Nat. 1890, p. 19<sup>1</sup>; Lép. de Loja (Equateur), ii. p. 73, t. 6. fig. 19<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*Höge*); GUATEMALA, Senahu, El Tumbador (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ECUADOR<sup>1 2</sup>.

26. ***Acidalia retractaria*.**

*Acidalia retractaria*, Walk. Cat. xxiii. p. 785<sup>1</sup> (reprinted in Pack. in Report of the U.S. Geol. Survey of the Territ. x. p. 356).

*Hab.* NORTH AMERICA, East Florida<sup>1</sup>.—MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

Mexican specimens agree well with Walker's type in the National Museum.

27. ***Acidalia latiferaria*.**

*Acidalia latiferaria*, Walk. Cat. xxiii. p. 787<sup>1</sup>.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*); HONDURAS (*Dyson*<sup>1</sup>).

The type is in very poor condition, and I feel considerable doubt in referring Mr. Schaus's specimen to the same species.

28. ***Acidalia* (?) *numitoria*, sp. n.** (Tab. LII. fig. 25.)

*Female.* Primaries and secondaries uniformly pale grey, each crossed by two narrow white lines—the first nearest the base, the second beyond the middle,—and with a yellowish-grey marginal line, the fringe grey; the underside greyish-white, without markings: head and upperside of the antennæ white, the thorax, abdomen, legs, and underside of the antennæ brownish-white. Expanse 1 inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

One specimen.

29. ***Acidalia* (?) *carmenta*, sp. n.** (Tab. LII. fig. 26.)

*Female.* Primaries and secondaries very pale citron-yellow, darker at the base, each crossed about the middle from the costal to the inner margin by an indistinct row of reddish-brown spots, beyond which are two narrow metallic golden lines extending from the costal margin near the apex to the anal angle—the first line is submarginal, the second marginal; the fringe pale yellow; the underside pale yellowish-white: head, thorax, abdomen, and legs pale yellow. Expanse  $\frac{9}{10}$  inch.

*Hab.* MEXICO, Coatepec (*coll. Schaus*); GUATEMALA, Senahu in Vera Paz (*Champion*); PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).

Three specimens, all females, the one from Mexico, in Mr. Schaus's collection, being larger than either of the others. Our description and figure are taken from the Senahu example.

30. *Acidalia* (?) *ocrisia*, sp. n. (Tab. LII. fig. 27.)

*Male*. Primaries and secondaries pale yellowish-fawn-colour, each crossed beyond the middle by a waved pale brown line, beyond which on the primaries is a row of small reddish-brown spots; the primaries with the costal margin brownish at the base, and with a white streak edged with reddish-yellow at the end of the cell; the fringe dark yellow; the underside yellowish-white, the costal margin and the apex of the primaries shaded with pink: head, antennæ, and thorax yellowish-fawn-colour (the abdomen wanting); legs pinkish-brown. Expanse  $\frac{9}{10}$  inch.

*Hab*. GUATEMALA, San Gerónimo (*Champion*).

Two specimens, both without abdomen.

31. *Acidalia* *nycteis*, sp. n. (Tab. LII. fig. 28.)

*Male*. Primaries and secondaries reddish-brown irrorated with yellow scales, each crossed from the costal to the inner margin by two indistinct darker brown waved lines, the costal margin of the primaries rather broadly bordered with yellow from the base to near the apex, the fringe reddish-brown; the underside pale yellow, the primaries shaded with pink: head and front of the thorax yellow, the rest of the thorax and the abdomen reddish-brown. Expanse  $\frac{3}{4}$  inch.

*Hab*. MEXICO, Teapa in Tabasco (*H. H. Smith*).

One specimen, allied to *A. ocrisia*.

32. *Acidalia* *odrussa*, sp. n. (Tab. LII. fig. 29.)

*Male*. Primaries and secondaries greyish-white, thickly irrorated with pale brown scales; the primaries with three brown spots on the costal margin nearest the apex, and a pale zigzag line crossing the wing beyond the middle, the fringe greyish-white; the secondaries very similarly marked; the underside darker than above, and with the lines much more distinct: head, antennæ, and legs reddish-brown, the thorax and abdomen grey.—*Female* very similar to the male. Expanse  $1\frac{1}{10}$  inch.

*Hab*. MEXICO, State of Durango (*Forrer*), Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Isidro, Zapote (*Champion*); COSTA RICA, Caché (*Rogers*).

Varies considerably in colour and in the distinctness of the markings. We figure a specimen from Teapa.

33. *Acidalia* *fulvicosta*.

*Acidalia fulvicosta*, Walk. Journ. Linn. Soc., Zool. ix. p. 191<sup>1</sup>.

*Hab*. GUATEMALA, Cerro Zunil 4000 to 5000 feet, Volcan de Atitlan 2500 to 3500 feet, Panajachel 5000 feet, San Gerónimo (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA, Bogota<sup>1</sup>.

Walker's type of this species is now in my own collection.

## ZANCLOPTERYX.

*Zanclopteryx*, Herrich-Schäffer, Samml. aussereur. Schmett. p. 26 (1850–58); Guenée, Sp. gén. des Lép. x. p. 15; Walker, Cat. xxiii. p. 809.

*Gasmara*, Walker, Cat. xxvi. p. 1634.

The type of this genus is *Z. aculeataria*, Herr.-Schäff., an insect ranging as far



north as the Mexican State of Guerrero ; two eastern species are also included in it by Guenée.

### 1. *Zanclopteryx aculeataria*.

*Zanclopteryx aculeataria*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 62, 81, fig. 330<sup>1</sup>; Guen.

Sp. gén. des Lép. x. p. 15<sup>2</sup>; Walk. Cat. xxiii. p. 810<sup>3</sup>; Butl. Trans. Ent. Soc. Lond. 1881, p. 334<sup>4</sup>.

*Gasmara uniferata*, Walk. Cat. xxvi. p. 1634<sup>5</sup>.

*Hab.* MEXICO, Dos Arroyos in Guerrero 1000 feet (*H. H. Smith*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Obispo (*Salvin, in mus. D.*), Panama city (*J. J. Walker*). — BRAZIL<sup>1 2 3</sup>; AMAZONS<sup>4</sup>, Ega<sup>5</sup>.

The females are generally without the lines crossing the wings, but some specimens show them very faintly.

## Subfam. MICRONIINÆ.

### RACASTA.

*Racasta*, Walker, Cat. xxiii. p. 830 (1861).

The single species included in this genus by Walker extends northwards to Guatemala.

### 1. *Racasta caberaria*.

*Racasta caberaria*, Walk. Cat. xxiii. p. 830<sup>1</sup>.

*Hab.* GUATEMALA, Cerro Zunil 4000 to 5000 feet (*Champion*).—VENEZUELA<sup>1</sup>; GUIANA; ECUADOR.

The sexes of this species are very much alike; the female only was known to Walker.

## NEDUSIA.

*Nedusia*, Hübner, Verz. bek. Schmett. p. 291 (1816); Guenée, Sp. gén. des Lép. x. p. 31; Walker, Cat. xxiii. p. 832.

### 1. *Nedusia mutilaria*.

*Nedusia mutilaria*, Hübn. Verz. bek. Schmett. p. 291<sup>1</sup>; Zutr. Samml. exot. Schmett. i. p. 30, figg. 181, 182<sup>2</sup>; Guen. Sp. gén. des Lép. x. p. 31<sup>3</sup>; Walk. Cat. xxiii. p. 832<sup>4</sup>.

*Hab.* GUATEMALA, San Gerónimo (*Champion*).—COLOMBIA, Bogota; GUIANA, Cayenne<sup>3</sup>, Surinam<sup>2 4</sup>; AMAZONS, Pará, Santarem<sup>4</sup>; BRAZIL.

One specimen from Guatemala, a female, agreeing well with others from South America in my own collection, and also with Hübner's figure.

## 2. *Nedusia cuticulata*.

*Nedusia cuticulata*, Guen. Sp. gén. des Lép. x. p. 31, Phalén. t. 12. fig. 3<sup>1</sup>; Walk. Cat. xxiii. p. 832<sup>2</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*), Dos Arroyos in Guerrero 1000 feet (*H. H. Smith*); PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—GUIANA, Cayenne<sup>1 2</sup>.

This is probably a small, pale form of *N. mutilaria*

## ORUDIZA.

*Orudiza*, Walker, Cat. xxiii. p. 857 (1861).

Two species are included under this generic name by Walker, one from India, the other from Venezuela; the latter extends northwards to Mexico. *Orudiza* is closely allied to *Nedusia*, Hübn., but it has the antennæ of the males more deeply pectinated.

## 1. *Orudiza placidaria*.

*Orudiza placidaria*, Walk. Cat. xxiii. p. 858<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*Höge*), Coatepec (*coll. Schaus*), Atoyac in Vera Cruz (*H. H. Smith*); GUATEMALA, in the city (*Rodriguez*), San Gerónimo, Zapote, Volcan de Atitlan 3500 to 4500 feet, Cerro Zunil 4000 to 5000 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet, Caché (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—VENEZUELA<sup>1</sup>.

We have a large series before us of this species, showing considerable variation in colour and in the distinctness of the markings.

## SYNGRIA.

*Syngria*, Guenée, Sp. gén. des Lép. x. p. 32 (1857); Walker, Cat. xxiii. p. 832.

## 1. *Syngria druidaria*.

♂. *Syngria druidaria*, Guen. Sp. gén. des Lép. x. p. 32, Phalén. t. 16. fig. 1<sup>1</sup>; Walk. Cat. xxiii. p. 833<sup>2</sup>.

♀. *Syngria falcinaria*, Guen. Sp. gén. des Lép. x. p. 33<sup>3</sup>; Walk. Cat. xxiii. p. 833<sup>4</sup>.

*Hab.* MEXICO, Coatepec (*Brooks*), Atoyac in Vera Cruz (*Schumann*), Valladolid in Yucatan (*Gaumer*); BRITISH HONDURAS, Cayo (*Blancaneaux*); GUATEMALA, San Gerónimo, Cahabon, and Telemán in Vera Paz (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Arcé, in mus. D.; Trötsch, in mus. Staudinger*), Bugaba 800 to 1500 feet, Volcan de Chiriqui 2000 to 3000 feet, David (*Champion*).—VENEZUELA<sup>2</sup>; GUIANA<sup>1 2</sup>; AMAZONS<sup>3 4</sup>, Ega<sup>2</sup>; BRAZIL, Rio Janeiro.

Varies considerably in colour in both sexes—from pale greyish-fawn-colour to dark brown,—and in the distinctness of the markings. In some specimens the creamy-



white spots near the anal angle of the primaries are large and distinct; in others they are entirely wanting.

## 2. *Syngria drepanata*.

*Syngria drepanata*, Feld. & Rogenh. Reise der Novara, Lep. t. 128. figg. 35, 35 a (♂) <sup>1</sup>.

*Hab.* PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).—AMAZONS <sup>1</sup>.

One specimen, a female, from Chiriqui, merely differing from Felder and Rogenhofer's figure in being darker on the upperside.

## EPIPLEMA.

*Epiplema*, Herrich-Schäffer, Samml. aussereur. Schmett. p. 26 (1850-58).

I retain the generic name *Epiplema* for *Erosia birostrata*, Guen.

## 1. *Epiplema birostrata*.

*Erosia birostrata*, Guen. Sp. gén. des Léop. x. p. 35 <sup>1</sup>; Walk. Cat. xxiii. p. 837 <sup>2</sup>.

*Epiplema furcillata*, Feld. & Rogenh. Reise der Novara, Lep. t. 128. fig. 30 <sup>3</sup>.

*Hab.* MEXICO, Atoyac in Vera Cruz (*H. H. Smith*); GUATEMALA, in the city (*Rodriguez*); PANAMA, Chiriqui (*Arcé, in mus. D.; Trötsch, in mus. Staudinger*), Bugaba 800 to 1500 feet, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—BRAZIL <sup>1 2 3</sup>.

## EROSIA.

*Erosia*, Guenée, Sp. gén. des Léop. x. p. 34 (1857) (pars); Walker, Cat. xxiii. p. 834 (pars).

Walker in his Catalogue includes thirty-four species from Tropical America in this genus, besides numerous others from the Old World. The sexes in most of the species have the wings very differently shaped. Fourteen species are now recorded from within our limits.

## 1. *Erosia metachromata*.

*Erosia metachromata*, Walk. Cat. xxiii. p. 835 <sup>1</sup>.

*Hab.* HONDURAS (*mus. Staudinger*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).—COLOMBIA; ANTILLES, San Domingo <sup>1</sup>.

Central-American specimens are almost identical with Walker's type in the National Collection.

## 2. *Erosia incolorata*.

*Erosia incolorata*, Guen. Sp. gén. des Léop. x. p. 37 <sup>1</sup>; Walk. Cat. xxiii. p. 838 <sup>2</sup>.

*Hab.* HONDURAS (*Dyson* <sup>2</sup>).—GUIANA <sup>1 2</sup>; BRAZIL <sup>1 2</sup>.

## 3. *Erosia cingillaria*.

*Polygonia cingillaria*, Geyer, in Hübner's Zutr. Samml. exot. Schmett. v. p. 14, figg. 849, 850 <sup>1</sup>.

*Erosia cingillaria*, Guen. Sp. gén. des Léop. x. p. 38 <sup>2</sup>; Walk. Cat. xxiii. p. 838 <sup>3</sup>.

*Hab.* MEXICO, Amula in Guerrero 6000 feet, Atoyac in Vera Cruz (*H. H. Smith*); GUATEMALA, Cahabon in Vera Paz, Zapote (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Taboga I. (*J. J. Walker*).—BRAZIL, Rio Janeiro <sup>1 2 3</sup>.

Varies considerably in colour, some specimens being much darker than others.

#### 4. *Erosia lacerotaria*.

*Erosia lacerotaria*, Walk. Cat. xxiii. p. 841 <sup>1</sup>.

*Hab.* GUATEMALA, Panajachel 5000 feet, Senahu, San Gerónimo (*Champion*).—AMAZONS <sup>1</sup>.

Guatemalan specimens are almost identical with Walker's type in the Saunders collection, now in the Oxford Museum.

#### 5. *Erosia demptaria*.

*Erosia demptaria*, Walk. Cat. xxvi. p. 1626 <sup>1</sup>.

*Hab.* MEXICO, Coatepec (*coll. Schaus*), Atoyac in Vera Cruz, Tonalapa in Guerrero (*H. H. Smith*); GUATEMALA, Zapote (*Champion*).—VENEZUELA <sup>1</sup>; BRAZIL, Rio Janeiro.

Of this species we have received four specimens, three males and one female; the latter has the wings very distinctly marked.

#### 6. *Erosia opigena*, sp. n. (Tab. LIII. figg. 1, ♂; 2, ♀.)

*Male.* Primaries and secondaries white; the primaries with the base and the costal and outer margins thickly streaked with fine brown lines, an indistinct white line crossing near the base from the costal to the inner margin, and a narrow brown line extending from the costal margin near the apex to the inner margin nearest the anal angle, the line nearest the apex reddish-brown, the fringe brown; the secondaries with the base and the outer half streaked with fine brown lines, which are darker near the anal angle, a narrow brown line crossing the middle of the wing, but not extending either to the costal or inner margin; the underside white, the primaries with a rather short, broad, black submarginal band: head, thorax, and abdomen brown, the latter banded with white, the antennæ and legs pale brown.—*Female.* Pale fawn-colour, the primaries with brown lines crossing the wings as in the male, and with a large indistinct brown spot at the end of the cell, the secondaries with more numerous brown lines. Expanse, ♂ ♀, 1 $\frac{4}{10}$  inch.

*Hab.* MEXICO, Coatepec, Jalapa (*coll. Schaus*); GUATEMALA, San Gerónimo, Cerro Zunil 4000 to 5000 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

Some specimens of this species are much more distinctly marked than others. We figure a rather well-marked pair from the Volcan de Chiriqui, whence we have received numerous males, but only one female.

#### 7. *Erosia incisaria*. (Tab. LIII. figg. 3, ♂; 4, ♀.)

*Erosia incisaria*, Walk. Cat. xxiii. p. 842 <sup>1</sup>.

*Hab.* MEXICO, Coatepec (*coll. Schaus*); GUATEMALA, Panima and Senahu in Vera Paz, Cerro Zunil 4000 to 5000 feet, Volcan de Atitlan (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet, Caché, Rio Sucio (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet, Caldera (*Champion*).—AMAZONS, Ega <sup>1</sup>.



A common insect in the southern part of our region. It varies considerably in colour and size. We figure a pair from the Volcan de Chiriqui.

### 8. *Erosia acalis*.

*Nedusia acalis*, Feld. & Rogenh. Reise der Novara, Lep. t. 128. fig. 25<sup>1</sup>.

*Hab.* GUATEMALA, Panima, Sinanja, and Sabo in Vera Paz (*Champion*); COSTA RICA, Caché, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA, Bogota<sup>1</sup>.

This species varies from almost white to pale fawn-colour. We have received a large series from Chiriqui. The females are generally darker than the males.

### 9. *Erosia omana*, sp. n. (Tab. LIII. fig. 5, ♂.)

*Male.* Primaries and secondaries pale brown, slightly irrorated with darker scales at the base; the primaries crossed from the apex to the inner margin by a narrow reddish-brown line, a narrow brown line crossing from the costal margin and joining the other line below the apex; the secondaries crossed about the middle by a narrow brown line, the outer margin thickly irrorated with very fine greyish lines; the fringe brown; the underside pale brown: head, thorax, abdomen, antennæ, and legs pale brown. Expanse 1 inch.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*); GUATEMALA, Cahabon in Vera Paz (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Panama city (*J. J. Walker*).

Four specimens.

### 10. *Erosia cassera*, sp. n. (Tab. LIII. figg. 6, ♂; 7, ♀.)

*Male.* Primaries and secondaries dark brown, irrorated with grey and black scales; the primaries crossed from the costal to the inner margin by three indistinct waved brown lines—the first near the base, the second near the middle, and the third just beyond the cell; the secondaries crossed about the middle from the costal to the inner margin by two dark brown lines; the fringe dark brown; the underside pale brown, the costal margin and the apex of the primaries yellowish-brown, thickly streaked with fine dark brown lines: head, thorax, and abdomen dark brown, the antennæ and legs brown.—*Female* slightly paler in colour. Expanse, ♂ 1¼, ♀ 1½ inch.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

A very distinct species allied to *E. incisaria*, Walk. Two males and one female.

### 11. *Erosia* (?) *carilla*, sp. n. (Tab. LIII. fig. 8, ♂.)

*Male.* Primaries pale brown, crossed from about the middle of the costal margin by two fine brown lines forming an elongated V-shaped marking; secondaries pale chrome-yellow, brownish at the base; the underside as above, but without markings: head, thorax, abdomen, antennæ, and legs brown. Expanse 1½ inch.

*Hab.* GUATEMALA, Cerro Zunil 4000 feet (*Champion*).

One specimen.

### 12. *Erosia ocalea*, sp. n. (Tab. LIII. fig. 9, ♀.)

*Female.* Primaries and secondaries pale brown, irrorated with dark brown and grey scales, the costal margin

of the primaries with a few white dots towards the apex; the underside pale greyish-brown, without markings: head, thorax, abdomen, antennæ, and legs brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* GUATEMALA, Cerro Zunil 4000 feet (*Champion*).

Two specimens, neither of them in good condition.

### 13. *Erosia* — ?

*Hab.* PANAMA, Volcan de Chiriqui 2000 feet (*Champion*).

One specimen, of an apparently distinct species, but not in sufficiently good condition for identification.

### 14. *Erosia ora*, sp. n. (Tab. LIII. fig. 10, ♀.)

*Female.* Primaries and secondaries brown; the primaries crossed beyond the middle from the costal to the inner margin by a fine waved white line shaded with reddish-brown on the inner side; the secondaries with a whitish-brown streak along the inner margin extending from the base almost to the anal angle, this streak crossed near the anal angle by a rather wide brown band, below which the wing is reddish-brown; the fringe dark brown; the underside dull blackish-brown: head, thorax, abdomen, antennæ, and legs dark brown. Expanse 1 inch.

*Hab.* MEXICO, Omilteme in Guerrero 8000 feet (*H. H. Smith*); GUATEMALA, Zapote (*Champion*).

Two specimens.

## SCHIDAX.

*Schidax*, Hübner, Verz. bek. Schmett. p. 315 (1816); Guenée, Sp. gén. des Lép. x. p. 39; Walker, Cat. xxiii. p. 853.

### 1. *Schidax squammaria*.

*Schidax squammularia*, Hübn. Verz. bek. Schmett. p. 315<sup>1</sup>.

*Schidax squammaria*, Hübn. Zutr. Samml. exot. Schmett. i. p. 27, figg. 161, 162<sup>2</sup>; Guen. Sp. gén. des Lép. x. p. 43<sup>3</sup>; Walk. Cat. xxiii. p. 854<sup>4</sup>; Butl. Trans. Ent. Soc. Lond. 1881, p. 345<sup>5</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Cahabon, San Juan, and San Gerónimo in Vera Paz (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Bugaba 800 to 1500 feet (*Champion*).—SOUTH AMERICA<sup>3 4</sup>; GUIANA, Surinam<sup>2</sup>; AMAZONS<sup>5</sup>, Ega<sup>4</sup>; BRAZIL<sup>4</sup>, Rio Janeiro<sup>4</sup>.

As Guenée remarks<sup>3</sup>, this appears to be a common species throughout Tropical America.

### 2. *Schidax anosectaria*.

*Schidax anosectaria*, Guen. Sp. gén. des Lép. x. p. 40<sup>1</sup>; Walk. Cat. xxiii. p. 854<sup>2</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*), Dos Arroyos in Guerrero 1000 feet (*H. H. Smith*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—SOUTH AMERICA<sup>1 2</sup>.

I believe this insect to be a pale form of *S. squammaria*, Hübn. The only locality given by Guenée is "South America."



Subfam. *CABERINÆ*.

## STEGANIA.

*Stegania*, Guenée, Sp. gén. des Léop. x. p. 43 (1857); Walker, Cat. xxiii. p. 860.

1. *Stegania* (?) *orsitaria*.

*Stegania* (?) *orsitaria*, Guen. Sp. gén. des Léop. x. p. 49<sup>1</sup>; Walk. Cat. xxiii. p. 863<sup>2</sup>.

*Corycia sulphurata*, Maassen, in Reiss und Stübel's Reisen in Süd-Amerika, p. 161, t. 8. fig. 18<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, Quiché Mountains 7000 to 8000 feet, Chilasco (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet, Rio Sucio (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA<sup>3</sup>; BRAZIL<sup>1 2</sup>.

Varies in colour and in the distinctness of the markings; some specimens are almost white, others pale citron-yellow.

Subfam. *MACARIINÆ*.

## SEMIOTHISA.

*Semiothisa*, Hübner, Verz. bek. Schmett. p. 298 (1816).

*Macaria*, Curtis, Brit. Ent. vi. t. 132 (1826).

Of this widely distributed genus 177 species are enumerated in Walker's Catalogue, and many others have since been described. Nineteen are here recorded from within our limits, five of which are described as new.

1. *Semiothisa ocellinata*.

*Macaria ocellinata*; Guen. Sp. gén. des Léop. x. p. 85<sup>1</sup>; Walk. Cat. xxiii. p. 883<sup>2</sup>.

*Semiothisa ocellinata*, Paek. in Report of the U.S. Geol. Survey of the Territ. x. p. 283, t. 10. fig. 11<sup>3</sup>.

*Macaria duplicata*, Paek. Fifth Ann. Rep. Peab. Acad. Sci. p. 65 (1873)<sup>4</sup>.

*Hab.* NORTH AMERICA<sup>1 2 3 4</sup>.—MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, San Gerónimo (*Champion*).

Packard states that this is not an uncommon species in North America. Guatemalan specimens differ from others from Florida in my own collection in having the dark marginal band wider on both wings, and also in having the underside yellower; they are darker than the single example received from Mexico.

2. *Semiothisa stimulata*.

*Macaria stimulata*, Walk. Cat. xxxv. p. 1656<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Amula in Guerrero 6000 feet (*H. H. Smith*), Atoyac in Vera Cruz (*Schumann*); GUATEMALA, San Gerónimo, Zapote (*Champion*).—COLOMBIA, Santa Marta<sup>1</sup>; ECUADOR.

The specimens from Zapote are considerably darker in colour than any of the others. BIOL. CENTR.-AMER., Heter., Vol. II., April 1893.

### 3. *Semiothisa cardinea*, sp. n. (Tab. LIII. figg. 11, 12, ♂.)

*Male*. Primaries and secondaries reddish-brown, thickly irrorated with greyish scales; the primaries crossed from the costal to the inner margin by four dark brown lines, the basal three of which are waved and concave, and extend from the apex to the anal angle; the secondaries crossed by three narrow waved brown lines; the margins and fringes of both wings brown; the underside pale yellow, thickly irrorated with dark brown scales, and marked with brown lines as above: head, thorax, and abdomen dark brown above, yellowish-brown beneath, the legs yellowish-brown, the antennæ dark brown.—The *female* very similar to the male, but paler in colour, both above and beneath. Expanse  $1\frac{1}{10}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Bugaba, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

This species varies in colour. We figure a rather dark specimen from the Volcan de Chiriqui.

### 4. *Semiothisa æquiferaria*.

*Macaria æquiferaria*, Walk. Cat. xxiii. p. 886<sup>1</sup>; Pack. in Report of the U.S. Geol. Survey of the Territ. x. p. 295, t. 10. fig. 21<sup>2</sup>.

*Macaria postrema*, Walk. Cat. xxiii. p. 887<sup>3</sup>.

*Macaria morosaria*, Walk. loc. cit. p. 942<sup>4</sup>.

? *Macaria subpunctaria*, Walk. loc. cit. p. 918<sup>5</sup>.

*Hab.* NORTH AMERICA, East Florida<sup>1 2 3</sup>.—MEXICO, Presidio (*Forrer*), Jalapa (*Höge*), Coatepec (*coll. Schaus*), Atoyac in Vera Cruz (*Schumann*), Tierra Colorada in Guerrero 2000 feet, Dos Arroyos 1000 feet, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Teleman and Panzos in Vera Paz (*Champion*), Volcan de Santa Maria, Pacific slope (*Richardson*); HONDURAS<sup>5</sup>; COSTA RICA, Caché, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet, Boquete 3500 feet (*Champion*), Obispo (*Salvin, in mus. D.*).

A common species throughout our region. It varies a good deal in colour and size. Mexican specimens are generally smaller than those from the more southern localities. The locality for *M. morosaria* was unknown to Walker<sup>4</sup>.

### 5. *Semiothisa carpo*, sp. n. (Tab. LIII. fig. 13, ♂.)

*Male*. Primaries and secondaries pale greyish-brown, slightly darker round the outer margins; the primaries crossed from the costal to the inner margin by three waved yellowish-brown lines—the first close to the base, the second about the middle, and the third beyond it,—and with two small black dots on the outer side of the line about the middle of the wing, the marginal line with minute black points, the fringe yellowish-brown; the secondaries crossed from the costal to the inner margin by two yellowish-brown lines—the first, nearest the base, quite straight, the second waved,—the fringe yellowish-brown; the underside considerably paler than above, and with very similar lines, the outer margins of both wings broadly bordered with darker brown: head, thorax, abdomen, antennæ, and legs pale greyish-brown, paler beneath.—The *female* very similar to the male, but generally paler in colour. Expanse, ♂ ♀, 1 inch.

*Hab.* MEXICO, La Venta 300 feet, Rio Papagaio 1200 feet, and Venta de Zopilote 2800 feet, all in Guerrero (*H. H. Smith*), Paso de San Juan in Vera Cruz (*coll. Schaus*); GUATEMALA, Volcan de Santa Maria, Pacific slope (*Richardson*); COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).



This species varies in colour and in the distinctness of the lines crossing the wings. It appears to be a fairly common insect.

#### 6. *Semiothisa* — ?

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

One specimen of an apparently very distinct species, but not in sufficiently good condition to be described.

#### 7. *Semiothisa enotata*.

*Phalena notata*, Cram. Pap. Exot. iv. p. 160, t. 371. ff. G, H<sup>1</sup>.

*Macaria enotata*, Guen. Sp. gén. des Lép. x. p. 69<sup>2</sup>; Walk. Cat. xxiii. p. 899<sup>3</sup>.

*Semiothisa enotata*, Pack. in Report of the U.S. Geol. Surv. of the Territ. x. p. 288, t. 10. fig. 15<sup>4</sup>;

Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 409<sup>5</sup>.

*Macaria æmulataria*, Walk. Cat. xxiii. p. 884<sup>6</sup>; Zeller, Verh. zool.-bot. Ges. Wien, xxii. p. 487<sup>7</sup>.

*Macaria sectomaculata*, Morrison, Proc. Bost. Soc. Nat. Hist. xvi. p. 198<sup>8</sup>.

? *Macaria transvisata*, Guen. Sp. gén. des Lép. x. p. 71<sup>9</sup>; Walk. Cat. xxiii. p. 900<sup>10</sup>.

*Hab.* NORTH AMERICA<sup>4</sup>, New York<sup>6,8</sup>, Massachusetts<sup>8</sup>, Florida<sup>6</sup>, Texas<sup>7</sup>.—MEXICO, Jalapa (*M. Trujillo*), Atoyac in Vera Cruz (*H. H. Smith*, *Schumann*), Teapa (*H. H. Smith*); GUATEMALA, in the city (*Rodriguez*), Zapote, San Gerónimo, Coatepeque 1300 feet, Cerro Zunil 4000 feet, San Isidro 1600 feet, Volcan de Atitlan 3000 to 4000 feet (*Champion*); HONDURAS (*Wittkugel*, in *mus. Staudinger*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe*, in *mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ECUADOR; GUIANA, Surinam<sup>1,2</sup>, Cayenne<sup>2,7</sup>, Paramaribo<sup>5</sup>; AMAZONS<sup>2</sup>, Santarem<sup>3</sup>; BRAZIL<sup>2,9</sup>, Rio Janeiro<sup>10</sup>.

A common species in our region. The large series of specimens before me vary a good deal in colour and in the distinctness of the markings.

#### 8. *Semiothisa triplicaria*.

*Macaria triplicaria*, Herr.-Schäff. Samml. aussereur. Schmett. p. 63, t. 65. fig. 367<sup>1</sup>; Guen. Sp. gén. des Lép. x. p. 70<sup>2</sup>; Walk. Cat. xxiii. p. 900<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Rinconada in Vera Cruz (*coll. Schaus*), Amula in Guerrero 6000 feet, Sierra de las Aguas Escondidas 7000 feet, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Gerónimo (*Champion*); COSTA RICA, Caché (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ECUADOR; BRAZIL<sup>1,2,3</sup>.

Some specimens of this species have a dark brownish spot on the primaries.

#### 9. *Semiothisa separataria*.

*Semiothisa separataria*, Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 411, t. 17. fig. 22<sup>1</sup>.

*Hab.* MEXICO, Atoyac in Vera Cruz (*H. H. Smith*); PANAMA, Chiriqui (*Arcé*, in *mus. D.*; *Ribbe*; *Trötsch*, in *mus. Staudinger*).—GUIANA, Surinam<sup>1</sup>; ECUADOR.

Central-American specimens are paler in colour than those from Ecuador, and they have the lines crossing the wings more distinct. All the examples before me are paler than Möschler's figure.

#### 10. *Semiothisa rigidata*?

*Macaria rigidata*, Guen. Sp. gén. des Lép. x. p. 70<sup>1</sup>; Walk. Cat. xxiii. p. 900<sup>2</sup>.

*Hab.* HONDURAS (*Wittkugel, in mus. Staudinger*).—BRAZIL<sup>1 2</sup>.<sup>4</sup>

#### 11. *Semiothisa agnitaria*.

*Parasemia agnitaria*, Hübn. Zutr. Samml. exot. Schmiett. ii. p. 30, ff. 381, 382<sup>1</sup>.

*Semiothisa agnitaria*, Hübn. Verz. bek. Schmiett. p. 298<sup>2</sup>.

*Macaria agnitaria*, Guen. Sp. gén. des Lép. x. p. 72<sup>3</sup>; Walk. Cat. xxiii. p. 902<sup>4</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Juan and San Gerónimo in Vera Paz (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Arcé, in mus. D.*; *Ribbe*; *Trötsch, in mus. Staudinger*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—AMAZONS<sup>4</sup>; BRAZIL<sup>4</sup>, Bahia<sup>1 3 4</sup>.

The apical portion of the primaries in some specimens is quite pale, in others dark brown. I think it quite possible that *S. agnitaria* will prove to be inseparable from *S. gambarina* (Cramer), from Surinam; but I have not any specimens from that locality before me for comparison.

#### 12. *Semiothisa catualda*, sp. n. (Tab. LIII. figg. 14, 15.)

Primaries and secondaries cream-colour, thickly irrorated with pale brown scales; the primaries crossed near the base from the costal to the inner margin by two curved faint brown lines, and with a very distinct dark brown straight line crossing from the costal margin near the apex to the anal angle, on the inner side of which is a row of small dark brown dots, the marginal line dark brown, the fringe cream-colour; the secondaries crossed by two lines—the first, near the base, extending from the costal to the inner margin, the second from near the apex to the anal angle, the marginal line with dark brown points, the fringe cream-colour; the underside slightly darker than above, very thickly irrorated with reddish-brown scales, both wings crossed from the costal margins by two reddish-brown bands—the first narrow, the second wide and very distinct: head, thorax, abdomen, antennæ, and legs cream-colour. Expanse 1½ inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen.

#### 13. *Semiothisa ostia*, sp. n. (Tab. LIII. fig. 16, ♂.)

*Male.* Primaries and secondaries pale fawn-colour slightly irrorated with darker scales, their outer margins broadly bordered with dark reddish-fawn-colour; the primaries with two dark reddish-brown spots on the costal margin, from which two indistinct waved lines cross to the inner margin, and with a narrow dark reddish line partly crossing the wing near the apex; the secondaries crossed about the middle by an indistinct waved line, which extends from the costal to the inner margin; the fringes of both wings pale fawn-colour; the underside much paler than above, and with the lines more distinct, a rather large black spot at the end of the cell on both wings: head, thorax, abdomen, and antennæ fawn-colour, paler beneath, the legs yellowish-fawn-colour. Expanse 1½ inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*; coll. *Schaus*).



14. **Semiothisa acutaria.** (Tab. LIII. fig. 17, ♂.)

*Macaria* (?) *acutaria*, Walk. Cat. xxvi. p. 1643<sup>1</sup>.

*Hab.* PANAMA, Bugaba (*Champion*), Chiriqui (*Trötsch, in mus. Staudinger*).—AMAZONS, Pará<sup>1</sup>.

We have only seen two examples of this species from our region. We figure the Bugaba specimen, which is almost identical with Walker's type in the National Museum.

15. **Semiothisa castalia**, sp. n. (Tab. LIII. fig. 18, ♂.)

Primaries and secondaries white, with a very slight yellowish tinge, both wings crossed from the costal to the inner margin by a narrow submarginal pale brownish line; the fringe white, brown just below the apex of the primaries; the underside very much as above: head, thorax, abdomen, antennæ, and legs yellowish-white. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Northern Sonora (*Morrison*).

One specimen.

16. **Semiothisa agrammata.**

*Macaria agrammata*, Guen. Sp. gén. des Lép. x. p. 75<sup>1</sup>; Walk. Cat. xxiii. p. 903<sup>2</sup>.

*Macaria crassaria*, Walk. Cat. xxiii. p. 916<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Atoyac in Vera Cruz (*H. H. Smith*), Paso de San Juan in Vera Cruz (*coll. Schaus*).—AMAZONS<sup>1</sup>, Santarem<sup>2 3</sup>.

The female of this species is slightly larger than the male, and it also differs in being paler in colour and in having the lines crossing the wings more distinct.

17. **Semiothisa (?) contorta.** (Tab. LIII. fig. 19, ♂.)

*Azelina contorta*, Thierry-Mieg, Le Nat. 1892, p. 217<sup>1</sup>.

*Hab.* GUATEMALA, San Gerónimo, Volcan de Atitlan 2500 to 3500 feet (*Champion*).—COLOMBIA; ECUADOR; PERU<sup>1</sup>.

I am indebted to Mons. P. Thierry-Mieg for the loan of his type of this and of the other Tropical-American species he has lately described. Of his *Azelina contorta* we have a good series; but it clearly does not belong to *Azelina*, and appears to me to be much more closely allied to *Semicthisa*, in which genus I have provisionally placed it. We figure a male specimen from San Gerónimo. The female is considerably larger and generally darker in colour.

18. **Semiothisa infusata.**

*Macaria infusata*, Guen. Sp. gén. des Lép. x. p. 81<sup>1</sup>; Walk. Cat. xxiii. p. 906<sup>2</sup>.

*Macaria disceptata*, Walk. Cat. xxiii. p. 895<sup>3</sup>.

*Macaria santaremaria*, Walk. loc. cit. p. 917<sup>4</sup>.

*Hab.* MEXICO, Presidio (*Forrer*), Jalisco (*Schumann*), Dos Arroyos 1000 feet, Tierra Colorada 2000 feet, Rio Papagaio 1200 feet, and Venta de Zopilote 2800 feet, all in

Guerrero, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*), Jalapa (*M. Trujillo*), Paso de San Juan in Vera Cruz (*coll. Schaus*), Valladolid in Yucatan (*Gaumer*); GUATEMALA, San Isidro 1600 feet, San Gerónimo (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—AMAZONS, Santarem<sup>4</sup>; BRAZIL<sup>1 2</sup>; ANTILLES<sup>3</sup>, Jamaica<sup>3</sup>.

Very common throughout the greater part of our region. It varies in size and colour, also in the distinctness of the markings.

### 19. *Semiothisa divergentata*.

*Macaria divergentata*, Snell. Tijdschr. voor Ent. xvii. p. 69, t. 5. fig. 7<sup>1</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ECUADOR.

Central-American specimens, as well as others from Ecuador in my own collection, are slightly smaller and paler than Snellen's figure. The particular locality for *M. divergentata* is not mentioned by Snellen<sup>1</sup>; the species is included amongst others described by him from New Granada, St. Thomas, and Jamaica.

## Subfam. FIDONIINÆ.

### THAMNONOMA.

*Thamnonoma*, Lederer, Verh. zool.-bot. Ges. Wien, iii. p. 232 (1853); Packard, in Report of the U. S. Geol. Surv. of the Territ. x. p. 249, t. 3. figg. 2, 2*a*, *b* (1876) (neururation).

This genus is closely allied to *Lozogamma*, Steph., from which it may at once be distinguished by the pectinated antennæ of the males. Packard includes ten species from North America in this genus, and four are here added from our region.

#### 1. *Thamnonoma imitata*, sp. n. (Tab. LIII. figg. 20, ♂; 21, ♀.)

*Male.* Primaries and secondaries very pale brownish-grey, slightly darker along the costal and outer margins; the primaries with two fine brown lines crossing from the costal to the inner margin—the first near the base, the second beyond the middle,—and a marginal line with black points, the fringe greyish-brown; the secondaries without markings; the underside yellowish-brown, with the lines very indistinctly marked. —The *female* very similar to the male, but generally larger and with a black spot at the end of the cell on both wings, the secondaries crossed about the middle with dark brownish lines; the underside paler than in the male, and with the lines crossing the wings more distinct. Expanse, ♂  $1\frac{3}{10}$ , ♀  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Amecameca (*F. D. G.*), Las Vigas (*coll. Schaus*); GUATEMALA, Quiché Mountains 7000 to 9000 feet (*Champion*).

This species resembles the European *Lozogamma petraria*, Esp. Mr. Godman's specimens were captured in April 1888.

#### 2. *Thamnonoma olympusa*, sp. n. (Tab. LIII. fig. 22, ♂.)

*Male.* Primaries dark grey shaded with brown, crossed from the costal to the inner margin by three dark brown lines—the first and second edged with pale yellow, the third submarginal and less distinct than



the others, except at the apex,—and with several rows of minute black dots between the lines, the marginal line with black points, the fringe dark greyish-brown; secondaries dark grey shaded with brown, paler from the middle to the base, their outer portion crossed by very faint lines; the underside greyish-brown, irrorated with darker brown scales: head, thorax, abdomen, antennæ, and legs greyish-brown. Expanse  $1\frac{1}{10}$  inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

One specimen.

3. **Thamnonoma panassa**, sp. n. (Tab. LIII. fig. 23, ♂.)

*Male.* Primaries very pale greyish-brown, crossed from the costal to the inner margin by two waved dark brown lines, each of which is edged with a yellow line on the outer side, and with a row of very indistinct small dots near the outer margin and a small black dot at the end of the cell; secondaries paler in colour than the primaries, darker round the outer margin; the fringe greyish-brown; the underside pale brown, without markings: head, thorax, abdomen, and antennæ pale greyish-brown. Expanse  $1\frac{4}{10}$  inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

One specimen.

4. **Thamnonoma (?) cecinna**, sp. n. (Tab. LIII. fig. 24, ♂.)

*Male.* Primaries and secondaries pale greyish-fawn-colour; the primaries crossed from the costal margin beyond the middle by a reddish-brown line, which becomes thicker on the inner margin, and with a row of small black dots crossing from near the apex to the inner margin and joining the brown band, a brown spot at the end of the cell, the marginal line with black points; the secondaries crossed about the middle by a faint brownish line, below which a row of minute black dots extends from the costal to the inner margin; the underside pale greyish brown, each wing with a submarginal row of very distinct black dots: head, thorax, antennæ, and legs pale fawn-colour, the abdomen slightly yellowish. Expanse  $1\frac{4}{10}$  inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

One specimen.

PACHYDIA.

*Pachydia*, Guenée, Sp. gén. des Lép. x. p. 137 (1857); Walker, Cat. xxiii. p. 1018.

This genus is probably confined to Tropical America, the eastern species having been separated from it by recent authors.

1. **Pachydia abdominalia**.

*Pachydia abdominalia*, Guen. Sp. gén. des Lép. x. p. 138<sup>1</sup>; Walk. Cat. xxiii. p. 1018<sup>2</sup>.

*Thysanopyga apicitruncaria*, Herr.-Schäff. Samml. aussercur. Schmett. p. 64, fig. 536<sup>3</sup>; Corr.-Blatt zool.-min. Ver. Regensb. 1870 (sep. copy, p. 51)<sup>4</sup>.

*Hab.* MEXICO, Jalapa, Paso de San Juan in Vera Cruz (*coll. Schaus*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—VENEZUELA<sup>1</sup>; ECUADOR; BRAZIL<sup>2</sup>, Rio Janeiro; ANTILLES, Cuba<sup>4</sup>, San Domingo<sup>2</sup>.

Some specimens of this species are much brighter than others. The locality was unknown to Guenée<sup>1</sup>.

2. **Pachydia carfinia**, sp. n. (Tab. LIII. fig. 25, ♂; 26, ♀.)

*Male*. Primaries and secondaries pale fawn-colour, irrorated with darker scales; the primaries with the costal margin from the base to near the apex blackish-brown (much more distinctly so in some specimens than in others), and with three brown lines crossing from the costal to the inner margin—the first close to the base, the second, waved, about the middle, the third very concave, extending from the apex to the inner margin,—a black dot at the end of the cell, and a rather large semicircular greyish-white spot just below the apex on the outer margin; the secondaries with a very minute white dot at the end of the cell, round which the wing is shaded with fawn-colour; the underside pale greyish-brown, the outer margins of both wings broadly bordered with darker brown; head and antennæ blackish-brown; the thorax and abdomen pale fawn-colour above, their under surface and the legs yellowish-fawn-colour, the anal tuft pale greyish-brown.—*Female*. Very similar to the male, but generally larger and paler. Expanse, ♂  $1\frac{1}{2}$ , ♀  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Presidio (*Forrer*), Paso de San Juan in Vera Cruz (*coll. Schaus*); GUATEMALA, Panima in Vera Paz, El Tumbador 2500 feet, Las Mercedes 3000 feet, Pantaleon 1700 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

We figure a male from Panima and a female from the Volcan de Atitlan; some of the other specimens are darker.

3. **Pachydia casperia**, sp. n. (Tab. LIII. figg. 27, ♂; 28, ♀.)

*Male*. Primaries and secondaries pale fawn-colour, thickly irrorated with brown scales; the primaries with a large yellowish-brown patch on the costal margin near the apex, which is greyish, and with two rather wide waved lines crossing from the costal to the inner margin—the first near the base, the second before the end of the cell,—a small black spot at the end of the cell, the marginal line with minute black points; the secondaries with a pale yellow spot at the end of the cell; the fringe greyish-fawn-colour; the underside pale greyish-brown, darker near the apex of the primaries; head, palpi, and antennæ blackish-brown, the thorax, abdomen, and legs dark fawn-colour.—*Female*. Rather darker in colour, and with all the markings greyer. Expanse, ♂  $1\frac{6}{10}$ , ♀  $1\frac{1}{2}$  inch.

*Hab.* GUATEMALA, Zapote, Las Mercedes 3000 feet (*Champion*).

This species is allied to *P. carfinia*. We figure a male from Zapote and a female from Las Mercedes.

4. **Pachydia divisaria**.

*Tephрина divisaria*, Walk. Cat. xxiii. p. 960<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*); GUATEMALA, Cerro Zunil 4000 to 5000 feet, Volcan de Atitlan 2500 to 3500 feet, Zapote, Capetillo, Senahu (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2500 to 3500 feet (*Champion*).—VENEZUELA<sup>1</sup>.

This is a common species in Guatemala. It varies greatly in size, the specimens from the State of Panama being generally larger than those from Mexico or Guatemala.

5. **Pachydia oræa**, sp. n. (Tab. LIV. figg. 1, ♂; 2, ♀.)

*Male*. Primaries and secondaries pale brown; the primaries crossed from the costal to the inner margin by three narrow waved dark brown lines—the third just beyond the cell,—and with a reddish-brown patch



with some black dots close to the apex, which is slightly irrorated with greyish scales, the fringe pale brown; the secondaries crossed from the costal to the inner margin by three curved dark brown lines—the first, nearest the base, darker than the others, the second about the middle and very indistinct, the third submarginal and broken up into spots,—the fringe pale brown; the underside pale brown, without markings: head, thorax, abdomen, and legs pale brown, the antennæ dark brown.—*Female*. Darker in colour and with the lines more indistinct; the secondaries crossed from the costal to the inner margin by a submarginal reddish-brown band, which is much more distinct in some specimens than in others. Expanse, ♂  $1\frac{4}{10}$ , ♀  $1\frac{1}{4}$  inch.

*Hab.* GUATEMALA, Las Mercedes 3000 feet, Cerro Zunil 4000 to 5000 feet, Volcan de Atitlan 2500 to 3500 feet, San Gerónimo (*Champion*).

Numerous examples, including both sexes.

6. *Pachydia cercyon*, sp. n. (Tab. LIV. fig. 3, ♂.)

*Male*. Primaries and secondaries yellowish-fawn-colour, paler at the base, each crossed by two very faint narrow brownish lines, and with a white dot edged with black at the end of the cell; the primaries with the costal margin and a spot at the apex irrorated with blackish-grey scales; the fringe pale greyish-brown; the underside pale whitish-fawn-colour, broadly bordered with pale brown: head, thorax, abdomen, and legs fawn-colour, the antennæ dark grey, the anal tuft pale fawn-colour. Expanse 1 inch.

*Hab.* MEXICO, Presidio (*Forrer*).

One specimen. Very distinct from any other species known to me.

7. *Pachydia cermala*, sp. n. (Tab. LIV. figg. 4, ♂; 5, ♀.)

*Male*. Primaries and secondaries pale brown, each crossed by three waved darker brown lines, their marginal lines with black points; the primaries with a very distinct black spot at the end of the cell; the fringe dark brown; the underside pale greyish-brown, broadly bordered with darker brown: head, thorax, and abdomen pale brown, the antennæ and palpi blackish-brown, the legs and underside of the abdomen pale greyish-brown.—*Female*. Very similar to the male, but with a white spot at the end of the cell on the secondaries. Expanse, ♂  $1\frac{1}{4}$ , ♀ 1 inch.

*Hab.* MEXICO, Coatepec (*coll. Schaus*), Jalapa (*M. Trujillo*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

I have a large series of this species before me. Both sexes show a considerable amount of variation in the distinctness of the whitish spot on the secondaries; the specimen from Coatepec in Mr. Schaus's collection has this spot larger than in any other I have seen. We figure a pair from the Volcan de Atitlan.

8. *Pachydia oroanda*, sp. n. (Tab. LIV. figg. 6, 7, ♂.)

*Male*. Primaries and secondaries pale fawn-colour, crossed by two indistinct slightly darker waved lines, and thickly irrorated with small black scales; the fringe fawn-colour; the underside whitish-brown, with the outer margins bordered with darker brown: head, thorax, and abdomen pale fawn-colour, the antennæ blackish-grey, the legs pale brown.—*Female* very similar to the male. Expanse, ♂  $1\frac{1}{4}$ , ♀  $1\frac{1}{10}$  inch.

*Hab.* MEXICO, Jalapa (*coll. Schaus*); GUATEMALA, Totonicapam 8500 to 10,500 feet, San Isidro 1600 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

We figure two males from San Isidro, one of them (fig. 7) being a very distinct variety.

## GORYTODES.

*Gorytodes*, Guenée, Sp. gén. des Léop. x. p. 179 (1857); Walker, Cat. xxiv. p. 1062; Packard, in Report of the U.S. Geol. Surv. of the Territ. x. p. 201, t. 2. fig. 1 (necuration).

*Platea*, Herrich-Schäffer, Samml. aussereur. Schmett. p. 43.

Two species have been placed in this genus by Packard. One of these occurs in Mexico, whence an additional species is now added.

1. *Gorytodes trilinearia*.

*Gorytodes trilinearia*, Pack. Proc. Bost. Soc. Nat. Hist. xvi. p. 24, t. 1. fig. 23<sup>1</sup>; Report of the U.S. Geol. Surv. of the Territ. x. p. 202, t. 9. fig. 33<sup>2</sup>.

*Hab.* NORTH AMERICA, Nevada<sup>1 2</sup>, Arizona<sup>1 2</sup>.—MEXICO, Amecameca in Morelos (*F. D. G.*).

One specimen, a male, in poor condition, captured by Mr. Godman in April 1888.

2. *Gorytodes orsima*, sp. n. (Tab. LIV. fig. 8, ♂.)

*Male.* Primaries and secondaries very pale greyish-brown; the primaries crossed from the costal margin to the middle of the inner margin by two dark brown lines which are edged with greyish-white—these lines joining near the middle of the inner margin, and forming a wide V-shaped mark,—and with a small black dot at the end of the cell and two dark brown marks on the costal margin near the apex; the fringe pale greyish-brown; the underside pale brown, without markings: head, antennæ, thorax, abdomen, and legs pale brown. Expanse  $1\frac{5}{16}$  inch.

*Hab.* MEXICO, Amecameca in Morelos (*F. D. G.*).

One specimen.

## Subfam. ZERENINÆ.

## PANTHERA.

*Panthera*, Hübner, Verz. bek. Schmett. p. 305 (1816); Walker, Cat. xxiv. p. 1112.

*Pantherodes*, Guenée, Sp. gén. des Léop. x. p. 199.

Guenée included four species in this genus, two of them being of doubtful value.

1. *Panthera pardalaria*.

*Panthera pardalaria*, Hübn. Zutr. Samml. exot. Schmett. ii. p. 25, figg. 335, 336<sup>1</sup>; Verz. bek. Schmett. p. 305<sup>2</sup>; Walk. Cat. xxiv. p. 1113<sup>3</sup>.

*Pantherodes pardalaria*, Guen. Sp. gén. des Léop. x. p. 200, Phalén. t. 14. fig. 7<sup>4</sup>.

*Phalæna perspicillum*, Perty, Del. Anim. Artic. Bras. p. 163, t. 32. fig. 11<sup>5</sup>.

*Hab.* MEXICO (*Sallé*<sup>1 3</sup>; *Boucard*, in *mus. D.*), Jalapa (*coll. Schaus*; *Höge*; *M. Trujillo*), Cordova (*Rümeli*), Orizaba (*F. D. G.*; *H. J. Elwes*); GUATEMALA, San Gerónimo (*Champion*); PANAMA, Chiriqui (*Ribbe*, in *mus. Staudinger*; *Arcé*, in *mus. D.*).—COLOMBIA; ECUADOR; VENEZUELA<sup>3</sup>; BRAZIL<sup>3 4</sup>, Rio Janeiro<sup>1</sup>, Rio Negro<sup>5</sup>; ARGENTINE REPUBLIC.



This species is common in Central and South America, extending as far south as the Argentine Republic. It varies considerably in size and colour, and in the distinctness of the markings. To judge from our series of upwards of sixty specimens, there can be very little doubt that *P. unciaria* and *P. colubraria*, Guen., are nothing but slight varieties of *P. pardalaria*, Hübn. *P. leonaria*, Guen., I consider to be a good species, differing constantly from *P. pardalaria* in having the spots darker, and the head, thorax, and abdomen deep black.

## PERIGRAMMA.

*Perigramma*, Guenée, Sp. gén. des Lép. x. p. 215 (1857); Walker, Cat. xxiv. p. 1132.

This genus was founded by Guenée upon a Brazilian insect, *P. nervaria*, of which he only had the female before him. Of the two species now added to it, one is nearly allied to *P. nervaria*, and this has the antennæ deeply pectinated in the male and simple in the female.

1. *Perigramma orates*, sp. n. (Tab. LIV. fig. 9, ♂.)

*Male*. Primaries and secondaries pure white; the primaries with the costal and outer margins, and the secondaries with the outer margin from the apex to the anal angle, bordered with greyish-black; the marginal line of both wings white, the fringe greyish-black; the underside as above: head and front of the thorax yellow, the rest of the thorax and the abdomen white, the anal tuft yellowish, the antennæ and legs blackish-brown.—*Female*. Very similar to the male. Expanse, ♂  $1\frac{1}{2}$ , ♀  $1\frac{3}{4}$  inch.

*Hab*. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Bugaba, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).

We figure a male specimen from Bugaba. This species is allied to *P. nervaria*, Guen., from Pará, from which it may be at once distinguished by the blackish-grey border to the costa of the primaries and by the dark outer border of the secondaries.

2. *Perigramma* (?) *cesata*, sp. n. (Tab. LIV. fig. 10, ♀.)

*Female*. Primaries and secondaries pure white, the primaries with the costal margin and a rather wide band crossing about the middle to the anal angle, where it is curved inwards, greyish-black; the fringe white: the underside as above: head and antennæ black, the thorax, tegulæ, and abdomen white, the anus yellow, the legs brownish-white. Expanse 2 inches.

*Hab*. PANAMA, Chiriqui (*Ribbe & Trötsch, in mus. Staudinger*).

Two specimens, both females. The band crossing the primaries is much wider in one example than in the other. We figure the one with the widest band.

## ZERENE.

*Zerene*, Treitschke, Schmett. Europ. vi. 2, p. 217 (1828); Guenée, Sp. gén. des Lép. x. p. 221 (1857); Walker, Cat. xxiv. p. 1136.

*Orthostixis*, Hübner, Verz. bck. Schmett. p. 304 (pars).

Three species were placed in this genus by Guenée. One is now added from Mexico.

1. **Zerene orsona**, sp. n. (Tab. LIV. fig. 11, ♂.)

*Male*. Primaries and secondaries creamy-white, the costal margin of the primaries black near the base, each wing crossed beyond the middle by a row of minute black dots and with a small black dot at the end of the cell, the outer margins with black points, the fringe white; the underside as above: head and tegulae orange-yellow, the thorax and abdomen yellowish-white, the antennae yellowish, the legs pale brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Durango city (*Becker*), Milpas in Durango 5000 feet (*Forrer*).

This species resembles the European *Orthostixis lätata* (Fabr.).

## SCORIA.

*Scoria*, Stephens, Illustr. Brit. Ent. iii. p. 244 (1831); Herrich-Schäffer, Samml. ausscureur. Schmett. p. 48; Walker, Cat. xxiv. p. 1050.

This genus is represented in our region by one species, which slightly resembles the European *S. dealbata* (Linn.).

1. **Scoria selectata**. (Tab. LIV. fig. 12, ♂.)

*Scoria selectata*, Guen. Sp. gén. des Lép. x. p. 163<sup>1</sup>; Walk. Cat. xxiv. p. 1051<sup>2</sup>.

*Hab.* MEXICO, Jalisco (*Schumann*).—COLOMBIA<sup>1 2</sup>.

Two specimens, male and female.

## FULGURODES.

*Fulgurodes*, Guenée, Sp. gén. des Lép. x. p. 213 (1857); Walker, Cat. xxiv. p. 1131.

1. **Fulgurodes organa**, sp. n. (*Nipteria organa*, Tab. LIV. fig. 13, ♀.)

*Female*. Primaries and secondaries greyish-white, clouded with pale brown; the primaries with three white streaks on the costal margin—the two nearest the base quite short, the third longer and faintly continued across the wing nearly to the anal angle; the secondaries with several indistinct brown marks about the middle, the outer margin broadly bordered with very pale brown, a submarginal waved greyish-white line extending from near the apex to the inner margin; the fringe alternately pale brown and greyish-white; the underside very much as above, but with all the markings darker and more distinct: antennae black; palpi white, with the third joint, and part of the second also, black; the front of the head yellow, the collar, thorax, and tegulae pale brown; the abdomen with the two basal segments greyish-white, the others brownish-yellow, each segment edged with a black line, the underside whitish; the legs brown. Expanse  $2\frac{1}{4}$  inches.

*Hab.* MEXICO, Coatepec (*Brooks*).

One specimen. *F. organa* is very distinct from any other species known to me.

## NIPTERIA.

*Nipteria*, Guenée, Sp. gén. des Lép. x. p. 223 (1857); Walker, Cat. xxiv. p. 1137.

A Tropical American genus, three species of which occur within our limits.

1. **Nipteria ordæa**, sp. n. (Tab. LIV. figg. 14, 15, ♀.)

*Female*. Primaries and secondaries pale whitish-brown, the primaries with three indistinct lines of spots crossing



from the costal to the inner margin, the secondaries clouded with brown, the fringe alternately pale brown and white; the underside much more distinctly marked with brown: head, antennæ, thorax, abdomen, and legs pale brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

One specimen.

## 2. *Nipteria crata*, sp. n. (Tab. LIV. fig. 16, ♂.)

*Male.* Primaries and secondaries pale greyish-brown, slightly irrorated with darker brown scales, an indistinct brown spot at the end of the cell on both wings, the fringe alternately pale greyish-brown and darker brown; the underside very much as above, but more heavily marked with brown: head, thorax, and abdomen greyish-brown, the antennæ blackish-brown, the legs pale brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen.

## 3. *Nipteria viatrix*. (Tab. LIV. fig. 17, ♂.)

*Nipteria viatrix*, Thierry-Mieg, Le Nat. 1892, p. 262 (♂)<sup>1</sup>.

*Hab.* GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui<sup>1</sup> (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 2500 to 3000 feet (*Champion*).

I am much indebted to Mons. P. Thierry-Mieg for kindly sending me his type of this species for examination. We have received two specimens of *N. viatrix*, both females, which differ from the type (male) in having the white spot on the primaries rather larger and extending nearer to the costal margin. A male from Dr. Staudinger's collection is figured.

## NEPHODIA.

*Nephodia*, Hübner, Verz. bek. Schmett. p. 312 (1816); Zutr. Samml. exot. Schmett. ii. p. 32; Walker, Cat. xxiv. p. 1143.

## 1. *Nephodia vaporaria*?

*Nephodia vaporaria*, Hübn. Zutr. Samml. exot. Schmett. iii. p. 22, ff. 475, 476<sup>1</sup>; Walk. Cat. xxiv. p. 1143<sup>2</sup>.

*Hab.* NORTH AMERICA, Georgia<sup>12</sup>.—GUATEMALA, Cubilguitz and Senahu in Vera Paz, Cubulco (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).

Numerous specimens from Central America agree with Hübner's figure of this species, except that they have the outer margins of the wings paler.

## 2. *Nephodia diaphanata*.

*Fulgorodes* (?) *diaphanata*, Maassen, in Reiss und Stübel's Reisen in Süd-Amerika, p. 162, t. 8. fig. 28 (♀)<sup>1</sup>.

*Hab.* GUATEMALA, Las Mercedes 3000 feet, Panajachel 5000 feet, Cubulco (*Champion*).—COLOMBIA<sup>1</sup>.

The males of this species are darker than the females, and they have all the lines on the wings wider and more distinct.

### 3. *Nephodia cetaria*, sp. n. (Tab. LIV. fig. 18, ♂.)

*Male.* Primaries and secondaries pale brownish-white, semihyaline; the primaries with the costal margin at the base, a band at the end of the cell, and the outer margin brown; the secondaries with a large spot at the end of the cell and the outer margin brown; the underside coloured as above, but with the markings more distinct: head, thorax, abdomen, and legs pale brown, the antennæ black.—*Female* very similar to the male, but with the antennæ simple. Expanse, ♂, 1 $\frac{1}{4}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).

We have a good series of this little species, which does not show any variation.

### 4. *Nephodia*(?) *oreades*, sp. n. (Tab. LIV. fig. 19, ♂.)

*Male.* Primaries dark brown, mottled with greenish-brown, with a white line crossing before the middle from the costal to the inner margin, beyond which a greenish-brown line partly crosses the wing from the inner margin, a very distinct white streak at the end of the cell, and a round white spot at the apex, the fringe greenish-brown; secondaries dark brown, with a large white spot about the middle, which extends upwards to the costal margin, where it becomes clouded with brown scales, the apex of the wing slightly edged with white, the fringe greyish-brown; the underside dark brown, with the white markings as above: head, thorax, abdomen, and legs dark brown, the antennæ blackish-brown. Expanse, ♂, 1 $\frac{1}{2}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen. An allied form from Ecuador is contained in my own collection\*.

## GRAPHIDIPUS.

*Graphidipus*, Herrich-Schäffer, Samml. aussereur. Schmett. pp. 34, 65 (1850–58).

? *Terenodes*, Guenée, Sp. gén. des Léop. x. p. 508 (1857); Walker, Cat. xxv. p. 1453.

The genus *Graphidipus* was founded by Herrich-Schäffer upon a single species, *G. fulvicostaria*, from Venezuela, which we are now able to trace northwards to Mexico. Not having seen a specimen of either of Guenée's species of the genus *Terenodes*, I have thought it advisable to retain Herrich-Schäffer's generic name.

### 1. *Graphidipus fulvicostaria*.

*Graphidipus fulvicostaria*, Herr.-Schäff. Samml. aussereur. Schmett. p. 65, fig. 352<sup>1</sup>.

*Terenodes*(?) *fulvicostaria*, Guen. Sp. gén. des Léop. x. p. 509<sup>2</sup>; Walk. Cat. xxv. p. 1454<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*Höge, M. Trujillo*), Coatepec (*coll. Schaus*); COSTA RICA, Rio Sucio (*Rogers*).—VENEZUELA<sup>1 2 3</sup>.

We have only received three specimens of this apparently rare insect.

\* Closely resembling *N. oreades*, but differing from it in having all the white markings much more extended. I propose to name this species *N. ceto*.



## CROCYPUS.

*Crocypus*, Herrich-Schäffer, Samml. aussereur. Schmett. pp. 34, 66 (1850-58); Walker, Cat. xxxii. p. 380.

The single species, *C. perlucidaria*, from Brazil, included under this generic name by Herrich-Schäffer extends northwards into Central America, whence a second species is now somewhat doubtfully added.

1. *Crocypus perlucidaria*.

*Crocypus perlucidaria*, Herr.-Schäff. Samml. aussereur. Schmett. p. 66, fig. 326<sup>1</sup>; Walk. Cat. xxxii. p. 380<sup>2</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—ECUADOR; BRAZIL<sup>1 2</sup>.

A rare species. I have only seen two specimens from our region.

2. *Crocypus* (?) *orocana*, sp. n. (Tab. LIV. fig. 20, ♂.)

*Male*. Primaries and secondaries slate-colour; the primaries crossed near the apex from the costal to the outer margin and anal angle by a wide pure white band, which is deeply dentated on the inner side, the fringe greyish; the secondaries with a white border, which is crossed by the dark veins and dentated on the inner side, the fringe white; the underside coloured as above: head greyish-white, the antennæ, thorax, upperside of abdomen, and legs slate-colour, the abdomen greyish-white beneath. Expanse 2 inches.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One species. This species is very distinct from any other known to me.

Subfam. *LARENTIINÆ*.

## EUPITHECIA.

*Eupithecia*, Curtis, Brit. Ent. vi. t. 64 (1825); Walker, Cat. xxiv. p. 1210; Packard, in Report of the U.S. Geol. Surv. of the Territ. x. p. 46, t. 1. fig. 1 (neurulation).

A widely-distributed genus including a large number of species, 109 being enumerated from Europe alone by Dr. Staudinger in his 'Catalogue.' About a dozen species are known from America north of Mexico; but from Tropical America six only appear to have been described as yet—one from Honduras, three from Colombia, one from Venezuela, and one from Guiana. Twenty are here recorded from within our limits, sixteen of which are described as new.

1. *Eupithecia spilosata*.

*Eupithecia spilosata*, Walk. Cat. xxvi. p. 1707<sup>1</sup>.

*Hab.* HONDURAS (*Dyson*<sup>1</sup>).

2. **Eupithecia cercina**, sp. n. (Tab. LIV. fig. 21, ♂.)

*Male*. Primaries pale pinkish-brown, dark reddish-brown towards the base, with a brownish-black band crossing about the middle—widest at the costal margin, but becoming quite narrow and divided in the centre, then widening again at the inner margin,—this band edged on each side with a narrow white line, a submarginal fine white line extending from the costal margin near the apex to the anal angle, and a dark brown spot at the anal angle, the fringe greyish-brown; secondaries greyish-white, with the inner margin broadly bordered with blackish-brown, the outer margin dusky, the anal angle streaked with pinkish-brown, the fringe greyish-brown; the underside dark grey, with a few black dots on both wings: head and antennæ black, the thorax pinkish-brown, black in front; the abdomen blackish-brown, with the base pinkish-brown; the legs blackish-brown.—*Female*. Very similar to the male, but not quite so bright in colour, and with the band on the primaries slightly narrower. Expanse  $\frac{9}{16}$  inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

Two specimens.

3. **Eupithecia orilochia**, sp. n. (Tab. LIV. fig. 22, ♂.)

*Male*. Primaries and secondaries very pale fawn-colour, slightly irrorated with fine reddish-brown scales; the primaries with two dark brown spots on the costal margin and a small spot at the end of the cell; the secondaries crossed about halfway from the inner margin by a rather wide reddish-brown band and with a reddish-brown streak at the anal angle, the fringe fawn-colour, with a reddish-brown dot at the end of each vein; the underside paler than above, with the markings less distinct: head, thorax, antennæ, and legs fawn-colour, the abdomen reddish-brown irrorated with fawn-coloured scales, the anal tuft pale fawn-colour.—*Female* very similar to the male. Expanse  $\frac{3}{4}$  inch.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Obispo (*Salvin, in mus. D.*).

The Panama specimens are much smaller than those from Costa Rica.

4. **Eupithecia orsetilla**, sp. n. (Tab. LIV. fig. 23, ♂.)

*Male*. Primaries dark silky brown, crossed from the costal to the inner margin by several very indistinct pale brown waved lines, and with a very narrow submarginal waved line extending from the apex to the anal angle and a black dot at the end of the cell; secondaries a little lighter than the primaries, mottled with pale brown near the anal angle; the underside paler than above, and with the lines slightly more distinct: head, antennæ, thorax, abdomen, and legs brown.—*Female* generally paler than the male. Expanse  $\frac{7}{16}$  inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

We figure a specimen from Teapa.

5. **Eupithecia certissa**, sp. n. (Tab. LIV. figg. 24, ♂; 25, ♀.)

*Male*. Primaries and secondaries pale whitish-grey; the primaries crossed beyond the middle from the costal to the inner margin by a row of very minute black dots, on each side of which are several very indistinct faint lines, and with a submarginal pale waved line extending from the apex to the anal angle, a small dot at the end of the cell and the marginal line black, the fringe grey; the secondaries very similarly marked, the lines being continued across from the costal to the inner margin; the underside with the lines even fainter than above: head, thorax, antennæ, and legs pale grey, the abdomen darker grey.—*Female* darker than the male, and with all the markings very much more distinct above and beneath. Expanse, ♂ ♀, 1 inch.



*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

Four specimens—three males and one female.

### 6. *Eupithecia indefinata*.

*Eupithecia indefinata*, Snell. Tijdschr. voor Ent. xvii. p. 75, t. 5. fig. 11<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).—COLOMBIA, Bogota<sup>1</sup>.

Seven specimens from Jalapa, all females, agreeing well with Snellen's figure, except that they have the discal spot on the primaries more distinct.

### 7. *Eupithecia* — ?

*Hab.* COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).

One worn specimen of an apparently distinct species.

### 8. *Eupithecia orbelia*, sp. n. (Tab. LIV. fig. 26, ♂.)

*Male.* Primaries and secondaries uniformly brownish-grey, slightly irrorated with a few darker scales, both wings with a very faint waved submarginal line, the marginal line black, the fringe grey: head, thorax, abdomen, antennæ, and legs dark grey.—*Female* very similar to the male. Expanse  $\frac{9}{10}$  inch.

*Hab.* MEXICO, Presidio (*Forrer*), Orizaba (*F. D. G.*, *H. H. Smith*), Jalapa (*M. Trujillo*); GUATEMALA, near the city 5000 feet (*Salvin, in mus. D.*), San Gerónimo (*Champion*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

We figure a male captured by Mr. Godman at Orizaba in December 1887. The Panama specimen is in very bad condition, but I believe it belongs to this species.

### 9. *Eupithecia carellia*, sp. n. (Tab. LIV. fig. 27, ♀.)

*Female.* Primaries and secondaries pale fawn-colour; the primaries with two dots on the costal margin and one at the end of the cell black, and two rows of small black spots crossing from the costal to the inner margin—the first near the base, the second considerably beyond the middle,—the marginal line black, the fringe fawn-colour; the secondaries with a black spot at the end of the cell, below which a fine black line broken into dots crosses the wing from near the apex to the inner margin, the anal angle and outer margin clouded with blackish-brown, the fringe fawn-colour; the underside slightly darker than above, with all the markings less distinct: head, antennæ, thorax, and abdomen fawn-colour. Expanse 1 inch.

*Hab.* MEXICO, Presidio (*Forrer*).

We also have specimens of the male of this species, but they are in such poor condition that they cannot be described.

### 10. *Eupithecia chabora*, sp. n. (Tab. LIV. fig. 28, ♂.)

*Male.* Primaries and secondaries greyish-white thickly irrorated with minute brown scales, each wing with a black dot at the end of the cell, beyond which a row of small spots crosses from the costal to the inner margin, the marginal line brown, the fringe greyish; the underside very much as above, but with the costal margin and base of the primaries clouded with dusky brown: head, antennæ, thorax, abdomen, and legs pale greyish-white.—*Female* very similar to the male. Expanse  $\frac{1}{2}$  inch.

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*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, David in Chiriqui (*Champion*).

Our figure is taken from a David specimen.

11. **Eupithecia ornea**, sp. n. (Tab. LIV. fig. 29, ♂.)

*Male.* Primaries and secondaries pale brownish-fawn-colour, each crossed by indistinct pale lines, the primaries with two dots on the costal margin and one at the end of the cell dark brown, the marginal line of both wings brown, the fringe fawn-colour; the underside slightly paler than above: head, antennæ, thorax, abdomen, and legs brownish-fawn-colour. Expanse  $\frac{6}{10}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

One specimen.

12. **Eupithecia oroba**, sp. n. (Tab. LIV. fig. 30, ♂.)

*Male.* Primaries and secondaries pale fawn-colour, each crossed by fine indistinct waved brown lines; the primaries with a small black dot at the end of the cell, beyond which is a dark brown streak, a brown dot close to the anal angle, and several brown spots along the outer margin and at the apex; the fringe pale fawn-colour; the underside with the markings more distinct: head, thorax, abdomen, antennæ, and legs fawn-colour.—*Female* very similar to the male. Expanse 1 inch.

*Hab.* MEXICO, Jalapa (*Höge, M. Trujillo*); GUATEMALA, Totonicapam 8500 to 10,500 feet, Cerro Zunil 4000 feet, Volcan de Atitlan 2500 feet, Volcan de Agua 8500 to 10,500 feet, San Gerónimo (*Champion*); PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).

Varies slightly in size and colour, the Panama specimen in Dr. Staudinger's collection being smaller than any of the others before me. We figure an example from San Gerónimo.

13. **Eupithecia oroandes**, sp. n. (Tab. LIV. fig. 31, ♂.)

*Male.* Primaries and secondaries pale pinkish-brown, paler at the base; the primaries with two spots on the costal margin and a row of small spots crossing beyond the middle dark brown, a pale submarginal waved line extending from near the apex to the anal angle; the secondaries crossed about the middle by a row of dark brown spots, and with a submarginal pale line, the anal angle clouded with darker brown; the underside much as above, but with all the markings very indistinct: head, antennæ, thorax, abdomen, and legs pale brown.—*Female* slightly paler than the male. Expanse  $1\frac{1}{10}$  inch.

*Hab.* GUATEMALA, Cubilguitz in Vera Paz, Cerro Zunil 4000 feet (*Champion*); PANAMA, Caldera 1200 feet (*Champion*).

Three specimens—one male and two females.

14. **Eupithecia cerynea**, sp. n. (Tab. LIV. fig. 32.)

Primaries and secondaries white; the primaries with the costal margin and apex streaked and mottled with blackish-grey, the anal angle clouded with greyish-black, the marginal line black, the fringe alternately grey and white; the secondaries slightly irrorated with grey scales; the underside with all the markings considerably paler and much less distinct: head, thorax, antennæ, and legs greyish-white (the abdomen wanting). Expanse 1 inch.

*Hab.* GUATEMALA, Purula in Vera Paz (*Champion*).

One specimen.



15. *Eupithecia oretilia*, sp. n. (Tab. LV. fig. 1.)

Primaries and secondaries pure white slightly irrorated with black scales, each wing crossed from the costal to the inner margin by a submarginal row of small black spots, and with a black dot at the end of the cell, the marginal line spotted with black, the fringe white; the underside as above: head, thorax, abdomen, antennæ, and legs white. Expanse  $\frac{3}{4}$  inch.

*Hab.* GUATEMALA, near the city 5000 feet (*Salvin, in mus. D.*).

One specimen, wanting part of the abdomen.

16. *Eupithecia* — ?

*Hab.* COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).

One specimen. Apparently allied to *E. cerynea*.

17. *Eupithecia choma*, sp. n. (Tab. LV. fig. 2, ♂.)

*Male.* Primaries pale brown, mottled with darker brown at the apex and along the outer margin, a black spot at the end of the cell, the fringe brown; secondaries uniformly pale brown: head, antennæ, thorax, abdomen, and legs pale brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Amecameca in Morelos (*F. D. G.*).

One specimen, captured in April 1888.

18. *Eupithecia pactia*, sp. n. (Tab. LV. fig. 3.)

Primaries pale brown, crossed from the costal to the inner margin by two faint darker brown lines, a row of small whitish spots extending from the apex to the anal angle, the fringe brown; secondaries pale brown, paler at the base, the fringe brown; the underside very much as above: head, antennæ, thorax, abdomen, and legs pale brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

One specimen.

19. *Eupithecia* (?) *panda*, sp. n. (Tab. LV. fig. 4.)

Primaries reddish-fawn-colour, crossed by very fine waved lines, a small black dot at the end of the cell; secondaries paler in colour, streaked with reddish-brown on the inner margin; the underside very much as above: head, antennæ, thorax, abdomen, and legs brown. Expanse  $1\frac{1}{4}$  inch.

*Hab.* COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).

One specimen.

20. *Eupithecia* (?) *osiana*, sp. n. (Tab. LV. figg. 5, ♂; 6, ♀.)

*Male.* Primaries dark grey, thickly irrorated with black scales; secondaries paler, excepting along the inner margin; the fringe grey; the underside of the primaries pale grey, that of the secondaries white: head, antennæ, thorax, and abdomen dark grey.—*Female.* Primaries pale grey, crossed from the costal to the inner margin by two waved black lines—the first near the base, the second beyond the middle,—a small black streak at the end of the cell; secondaries pale grey, whitish in the cell, the inner margin and anal angle thickly irrorated with black scales; the fringe greyish-white; the underside greyish-white, with the outer margins streaky: head, antennæ, thorax, abdomen, and legs grey. Expanse, ♂  $\frac{3}{4}$ , ♀  $1\frac{1}{10}$  inch.

*Hab.* MEXICO, Northern Sonora (*Morrison*).

I place this species in the genus *Eupithecia* with considerable doubt, the male having pectinated antennæ.

## LEPIODES.

*Lepiodes*, Guenée, Sp. gén. des Lép. x. p. 359 (1857) ; Walker, Cat. xxiv. p. 1250.

Two species were placed in this genus by Guenée, one from North America and one from South Africa ; the first-mentioned was unknown to Packard.

1. *Lepiodes chrodna*, sp. n. (Tab. LV. fig. 7, ♂.)

*Male*. Primaries and secondaries pale greyish-brown, each crossed by fine darker brown lines, the primaries with a black dot at the end of the cell and a submarginal row of small black spots extending from the apex to the anal angle, the fringe alternately grey and brown : head, antennæ, thorax, abdomen, and legs dark brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

Mr. Schaus informs me that this species is common at Las Vigas in Eastern Mexico during the month of May. I have only seen one specimen of it as yet, not in very good condition.

2. *Lepiodes* (?)  *pieria*, sp. n. (Tab. LV. fig. 8.)

Primaries greyish-brown, crossed by many fine greyish-white lines, a black dot at the end of the cell, beyond which is a small white spot, a marginal waved white line extending from the apex to the anal angle ; secondaries dark greyish-brown ; the fringe greyish-brown ; the underside dark brown, with all the lines very indistinct : head, antennæ, thorax, abdomen, and legs greyish-brown. Expanse 1 inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

One specimen.

## RHOPALODES.

*Rhopalodes*, Guenée, Sp. gén. des Lép. x. p. 360 (1857) ; Walker, Cat. xxiv. p. 1251.

Three or four species of this genus are now known, all from Tropical South America ; one of these we are now able to trace northwards to the State of Panama.

1. *Rhopalodes lobophoraria*.

*Rhopalodes lobophoraria*, Oberth. Études d'Ent. vi. p. 37, t. 10. f. 10<sup>1</sup>.

*Hab.* PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—COLOMBIA ; ECUADOR ; PERU, Tambillo<sup>1</sup>.

The specimen before me from the State of Panama is darker on the underside than those from Colombia and Ecuador in my own collection.



## LOBOPHORA.

*Lobophora*, Curtis, Brit. Ent. vi. t. 81 (1825); Packard, in Report of the U.S. Geol. Survey of the Territ. x. p. 179, t. 1. figg. 14, 14 a (neurulation).

*Lobophora* is represented in North America by about nine species, and two from Mexico are now somewhat doubtfully added. The genus is very widely distributed.

1. *Lobophora* (?) *orthesia*, sp. n. (Tab. LV. fig. 9, ♂.)

*Male*. Primaries and secondaries very pale brown, crossed by darker brown lines; the primaries with three dark brown marks on the costal margin, a black spot at the end of the cell, and a very fine white submarginal line extending from the apex to the anal angle, the marginal line spotted with black, the fringe pale brown; the secondaries crossed by two brown bands; the underside very much as above, but with all the lines more indistinct: head, thorax, and abdomen pale brown, the antennæ and legs dark brown. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Omilteme in Guerrero 8000 feet (*H. H. Smith*).

Two males of this extraordinary insect were captured by Mr. Herbert Smith. The secondaries in this species are greatly reduced in size, and their shape will be best understood from our figure.

2. *Lobophora* (?) *cerevia*, sp. n. (Tab. LV. fig. 10, ♂.)

*Male*. Primaries and secondaries yellowish-fawn-colour; the primaries crossed from the costal to the inner margin by three fine brown lines—one near the base, the second beyond the middle, the third submarginal, the first zigzag, the second and third waved,—and with a spot on the costal margin towards the apex and a streak at the end of the cell dark brown, the fringe yellowish-fawn-colour; the secondaries with a submarginal line similar to that on the primaries; the underside very much as above: head, thorax, and abdomen yellowish-fawn-colour, the antennæ pale brown, the legs brownish-fawn-colour. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Jalapa (*Höge*).

One specimen.

## CLEOMANTES, gen. nov.

Head small; antennæ simple; palpi with the third joint long, pointed; abdomen elongate, extending more than half its length beyond the wings; primaries long and narrow, their costal margin straight almost to the apex, where it is slightly rounded, the apex pointed, the outer margin slightly curved, the inner margin straight; secondaries long and narrow, their outer margin from the apex to the anal angle deeply dentated; hind tibiæ with two pairs of spurs.

Type *Cleomantes mœrens*, Drucó.

1. *Cleomantes mœrens*, sp. n. (Tab. LV. fig. 11, ♂.)

*Male*. Primaries reddish-brown, darker along the costal and inner margins; secondaries brownish-black, with the anal angle and part of the outer margin creamy-white; the fringe reddish-brown; the underside very much as above: head, thorax, and abdomen reddish-brown, the terminal segments of the latter and the anal tuft creamy-white, the antennæ pale brown, the anterior and middle legs brown, the hind legs creamy-white. Expanse  $1\frac{3}{10}$  inch.

*Hab.* MEXICO, Atoyac in Vera Cruz (*H. H. Smith*); GUATEMALA, Volcan de Atitlan 2500 feet (*Champion*).

Two specimens, both males. This insect is not like any other species known to me. We figure the example from Atoyac.

### LARENTIA.

*Larentia*, Treitschke, Schmett. Europ. vi. 2, p. 75 (1828); Walker, Cat. xxiv. p. 1169.

Walker included eighty-four species in this genus from all parts of the world. *Larentia*, so far as we know at present, is poorly represented in Tropical America, two species only having been described from that region. We now add five species from within our limits, two of which are doubtfully placed in the genus.

#### 1. *Larentia columella*, sp. n. (Tab. LV. figg. 12, ♂; 13, ♀.)

*Male*. Primaries pale brownish-fawn-colour, irrorated with white scales, with a black dot at the end of the cell, several indistinct waved whitish lines crossing near the base from the costal to the inner margin, a wide white line crossing beyond the middle, and a fine waved white submarginal line extending from the apex to the anal angle; secondaries creamy-white, the marginal line brownish-fawn-colour; the fringe greyish-brown; the underside white, very thickly irrorated with reddish-fawn-colour: head, antennæ, and thorax pale brown, the abdomen greyish-brown, the legs pale brown.—*Female* very similar to the male, but more distinctly marked, especially on the secondaries. Expanse, ♂  $1\frac{1}{4}$ , ♀  $1\frac{3}{10}$  inch.

*Hab.* MEXICO, Milpas in Durango 5900 feet (*Forrer*), Las Vigas (*coll. Schaus*).

Two specimens; the male is contained in Mr. Schaus's collection.

#### 2. *Larentia core*, sp. n. (Tab. LV. fig. 14, ♂.)

*Male*. Primaries and secondaries semihyaline-white; the primaries thickly irrorated with greyish-brown scales, and crossed beyond the middle by two waved white lines—the first slightly tinged with yellow; the secondaries with their outer half thickly irrorated with greyish-brown scales; the fringe alternately grey and white; the underside almost white: head white, the antennæ brown, the thorax and abdomen grey. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

One specimen.

#### 3. *Larentia polimela*, sp. n. (Tab. LV. fig. 15, ♂.)

*Male*. Primaries very pale greyish-fawn-colour, the secondaries a little paler in colour; the primaries crossed about the middle by a wide darker band which extends from the costal to the inner margin, and with a small black dot at the end of the cell, and a very faint submarginal greyish line; the fringe pale grey: head, antennæ, thorax, and abdomen greyish-brown, the underside of the abdomen greyish-white. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Amecameca in Morelos (*F. D. G.*), Las Vigas (*coll. Schaus*).

Mr. Godman captured eight males of this insect in April 1888; the female is unknown to me.



4. *Larentia* (?) *conica*, sp. n. (Tab. LV. fig. 16, ♂.)

*Male*. Primaries reddish-fawn-colour, clouded with black beyond the middle, and with a yellowish-brown spot on the costal margin near the apex; secondaries very pale fawn-colour, darker at the apex and round the outer margin, a small black spot at the end of the cell; the fringe reddish-brown: head, antennæ, thorax, and abdomen brown, the legs dark brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

One worn specimen. I place this species in the genus *Larentia* with considerable doubt.

5. *Larentia* (?) *plautilla*, sp. n. (Tab. LV. fig. 17, ♂.)

*Male*. Primaries and secondaries pale brown; the primaries crossed from the costal to the inner margin by two fine waved dark brown lines—the first nearest the base, the second beyond the middle,—and with a small black dot at the end of the cell; the secondaries crossed about the middle by a very faint brown line; the fringe brown; the underside paler than above, entirely without markings: head, antennæ, thorax, abdomen, and legs pale brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* GUATEMALA (*Conradt, in mus. Staudinger*).

One specimen.

## HETERUSIA.

*Heterusia*, Geyer, in Hübner's Zutr. Samml. exot. Schmett. iv. p. 7, figg. 603, 604 (1832).

*Scordylia*, Guenée, Sp. gén. des Léop. x. p. 383 (1857); Walker, Cat. xxiv. p. 1274.

Walker, in his Catalogue, included seventeen species in this exclusively Tropical American genus, and many others have since been added by various authors. It is represented in our region by ten species, one of which I have described as new. Guenée and Walker apparently overlooked Hübner's name, as it is not mentioned by either of them.

1. *Heterusia atalantata*.

*Scordylia atalantata*, Guen. Sp. gén. des Léop. x. p. 383<sup>1</sup>; Walk. Cat. xxiv. p. 1275<sup>2</sup>; Snell. Tijdschr. voor Ent. xvii. p. 79<sup>3</sup>.

*Hab.* MEXICO, Ciudad Victoria in Tamaulipas (*Richardson*), Orizaba (*H. J. Elwes*), Atoyac in Vera Cruz, Venta de Zopilote in Guerrero (*H. H. Smith*); GUATEMALA (*Conradt, in mus. Staudinger*), San Gerónimo and Panima in Vera Paz (*Champion*); COSTA RICA (*Van Patten, mus. D.*).—COLOMBIA, Bogota<sup>2</sup>; VENEZUELA<sup>2</sup>; BRAZIL<sup>1 2</sup>.

The numerous specimens of this species before me show considerable variation in the length and width of the black streak on the secondaries.

2. *Heterusia salvini*.

*Scordylia salvini*, Butl. Ann. & Mag. Nat. Hist. ser. 4, xv. p. 341 (1875)<sup>1</sup>.

*Heterusia dividata*, Snell. Tijdschr. voor Ent. xxi. p. 148, t. 8. figg. 11–13 (1878)<sup>2</sup>.

*Hab.* COSTA RICA, Caché, Volcan de Irazu 6000 to 7000 feet, San Francisco 4500 feet (*Rogers*); PANAMA, Chiriqui (*Arcé, in mus. D.; Ribbe*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Veragua (*Salvin*<sup>1</sup>).—PERU<sup>2</sup>.

Not uncommon in Costa Rica and the State of Panama.

### 3. *Heterusia partitata*.

*Scordylia partitata*, Guen. Sp. gén. des Lép. x. p. 384<sup>1</sup>; Walk. Cat. xxiv. p. 1275<sup>2</sup>.

*Scordylia perfectaria*, Walk. Cat. xxiv. p. 1277<sup>3</sup>.

*Heterusia caesarea*, Feld. & Rogenh. Reise der Novara, Lep. t. 130. figg. 9, 9 a<sup>4</sup>.

*Hab.* MEXICO (*Sallé*<sup>3</sup>), Xucumanatlan 7000 feet, and Omilteme 8000 feet, both in Guerrero (*H. H. Smith*), Coatepec (*Brooks*), Jalapa (*M. Trujillo, Höge*), Orizaba (*H. J. Elwes*), Atoyac (*Hedemann*<sup>4</sup>), Cuernavaca (*Bilimek*<sup>4</sup>); GUATEMALA, Chiacam, San Gerónimo, and Purula in Vera Paz, Dueñas, Calderas, Cerro Zunil 4000 to 6000 feet (*Champion*), Volcan de Santa Maria, Pacific Slope (*Richardson*); COSTA RICA (*Van Patten, in mus. D.*), Volcan de Irazu 6000 to 7000 feet, Rio Sucio, San Francisco 4500 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—VENEZUELA<sup>2</sup>; BRAZIL<sup>1 2 4</sup>.

A common species in our region. I have a very large series before me, showing great variation in colour—from bright chrome-yellow to almost white. Costa Rican specimens are generally paler than those from elsewhere.

### 4. *Heterusia basilata*.

*Scordylia basilata*, Guen. Sp. gén. des Lép. x. p. 385, Phalén. t. 14. fig. 3<sup>1</sup>.

*Scordylia conduplicaria*, Walk. Cat. xxiv. p. 1276 (nec Hübn.)<sup>2</sup>.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Veragua (*Arcé, in mus. D.*).—COLOMBIA; ECUADOR; BRAZIL<sup>1</sup>, Rio Janeiro<sup>2</sup>.

I consider *H. basilata* (Guen.), of which I have a very large series before me, to be quite distinct from *H. conduplicaria*, Hübn., with which species Walker has placed it. *H. basilata* is a much whiter insect.

### 5. *Heterusia anicata*.

*Heterusia anicata*, Feld. & Rogenh. Reise der Novara, Lep. t. 130. figg. 13, 13 a (♂)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Las Vigas (*coll. Schaus*); GUATEMALA, Dueñas (*Champion*).—COLOMBIA, Bogota; ECUADOR.

I have only seen four specimens of this insect from within our limits; but from Ecuador I have a good series.



### 6. *Heterusia mortipax*.

*Scordylia mortipax*, Butl. & Druce, Cist. Ent. i. p. 118<sup>1</sup>; Butl. Lep. Exot. p. 178, t. 61. fig. 18<sup>2</sup>.

*Hab.* GUATEMALA, San Gerónimo (*Champion*); COSTA RICA, Cartago (*Van Patten*<sup>1 2</sup>), Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—ECUADOR.

A small species allied to *H. anicata*, Feld. & Rogenh. We have only received two specimens from our region.

### 7. *Heterusia discordata*.

*Scordylia discordata*, Guen. Sp. gén. des Lép. x. p. 384<sup>1</sup>; Walk. Cat. xxiv. p. 1275<sup>2</sup>.

*Heterusia luteoradiata*, Thierry-Mieg, Le Nat. 1892, p. 236<sup>3</sup>.

*Hab.* MEXICO, Sierra Madre de Tepic (*Richardson*), Jalapa (*M. Trujillo, coll. Schaus*); COSTA RICA<sup>3</sup>, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—COLOMBIA; BOLIVIA<sup>3</sup>; PERU; BRAZIL, Rio Janeiro; CHILI, Valparaiso<sup>1 2</sup>.

Some male specimens of this species have a yellow streak down the middle of the hind wing.

### 8. *Heterusia clustimena*, sp. n. (Tab. LV. figg. 18, 19, ♂.)

Primaries and secondaries bright chrome-yellow; the primaries with the apex broadly black, and a wide black band crossing beyond the middle from the costal to the outer margin; the secondaries with a wide black streak extending down the wing from near the base to the apex, the outer margin bordered with black, which is deeply dentate on the inner side near the anal angle; the fringe greyish; the underside of the primaries very much as above, but with the apex and outer margin reddish-brown slightly irrorated with yellow scales, that of the secondaries chrome-yellow, very thickly irrorated with reddish-brown scales, especially at the apex and round the outer margin; head, thorax, and abdomen yellow, the antennæ black, the legs yellow, the tarsi banded with black. Expanse 1 $\frac{3}{4}$  inch.

*Hab.* MEXICO, Coatepec (*Brooks*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

This species is very distinct from all others of the genus known to me; in the colour and markings of the underside it comes nearest to *H. anicata*, Feld. & Rogenh.

### 9. *Heterusia metagrapharia*.

*Emplocia* (?) *metagrapharia*, Walk. Cat. xxv. p. 1473<sup>1</sup>.

*Heterusia* (?) *cænonympha*, Feld. & Rogenh. Reise der Novara, Lep. t. 130. figg. 4, 4 a (♂)<sup>2</sup>.

*Hab.* MEXICO (*Bilimek*<sup>2</sup>), Oaxaca (*Sallé*<sup>1</sup>).

Apparently a very rare species. We have not received a specimen of it.

### 10. *Heterusia v-album*. (Tab. LV. figg. 20, 21.)

*Scordylia v-album*, Thierry-Mieg, Le Nat. 1892, p. 216<sup>1</sup>.

*Hab.* GUATEMALA<sup>1</sup>, Totonicapam 8500 to 10,500 feet, Quiché Mountains 7000 to 9000 feet (*Champion*).

Mr. Champion captured a very large series of specimens of this species, which show a considerable amount of variation in the size of the yellow marking on the primaries, and also in the distinctness of the white lines on the underside of the secondaries.

According to Mr. Champion, this insect is very abundant along the summit of the Cordillera in Guatemala. It flies by day, frequenting damp sandy spots by the roadside, where it congregates in large numbers.

### OBILA.

*Obila*, Walker, Char. of undescribed Lep. Het. p. 61 (1869).

Walker placed this genus in the Larentiidae, without giving any indication as to its affinities. It is quite unknown to me.

#### 1. *Obila dispar*.

*Obila dispar*, Walk. Char. of undescribed Lep. Het. p. 61<sup>1</sup>.

*Hab.* HONDURAS, Limas<sup>1</sup>.

### PHIBALAPTERYX.

*Phibalapteryx*, Stephens, Nomencl. Brit. Ins. p. 44 (1829); Guenée, Sp. gén. des Léop. x. p. 431; Walker, Cat. xxv. p. 1332; Packard, in Report of the U.S. Geol. Survey of the Territ. x. p. 168, t. 1. fig. 12 (neurulation).

#### 1. *Phibalapteryx intestinata*.

*Phibalapteryx intestinata*, Guen. Sp. gén. des Léop. x. p. 432<sup>1</sup>; Walk. Cat. xxv. p. 1337<sup>2</sup>; Pack. in Report of the U.S. Geol. Survey of the Territ. x. p. 170, t. 9. fig. 13<sup>3</sup>.

*Hab.* NORTH AMERICA, Canada<sup>1 2</sup> and United States<sup>2 3</sup>.—MEXICO, Presidio de Mazatlan (*Forrer*), Dos Arroyos 1000 feet, and Rio Papagaio 1200 feet, both in Guerrero (*H. H. Smith*), Jalapa (*Höge*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Trötsch*, in *mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

Apparently a common species in Mexico, but becoming rarer southwards. The specimen received from Dr. Staudinger is labelled "*Camptogramma balteolata*, Herr.-Schäff.;" I am unable to find that this name has ever been published.

#### 2. *Phibalapteryx effluata*.

*Phibalapteryx effluata*, Snell. Tijdschr. voor Ent. xvii. p. 89, t. 6. fig. 10<sup>1</sup>.

*Hab.* GUATEMALA, Cerro Zunil 4000 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA<sup>1</sup>; ECUADOR.

We have only received a few specimens of this species.



## PHILEREME.

*Philereme*, Hübner, Verz. bek. Schmett. p. 330 (1816); Packard, in Report of the U.S. Geol. Survey of the Territ. x. p. 174, t. 1. fig. 13 (neururation).

Very closely allied to the preceding genus, *Phibalapteryx*.

1. *Philereme albosignata*.

*Scotosia albosignata*, Pack. Fifth Ann. Rep. Peab. Acad. Sci. p. 61<sup>1</sup>.

*Philereme albosignata*, Pack. in Report of the U.S. Geol. Survey of the Territ. x. p. 174, t. 9. fig. 14<sup>2</sup>.

*Hab.* NORTH AMERICA, Southern States<sup>1 2</sup>.—MEXICO, Coatepec (*coll. Schaus*).—BERMUDA I.<sup>2</sup>

One specimen.

2. *Philereme californiata*.

*Scotosia californiata*, Pack. Proc. Bost. Soc. Nat. Hist. xiii. p. 399<sup>1</sup>; xvi. p. 40, t. 1. fig. 12<sup>2</sup>.

*Philereme californiata*, Pack. in Report of the U.S. Geol. Survey of the Territ. x. p. 175, t. 9. fig. 15<sup>3</sup>.

*Hab.* NORTH AMERICA, California<sup>1 3</sup>, Sanzalito<sup>3</sup>.—MEXICO, Rinconada in Vera Cruz (*coll. Schaus*).

One specimen, very similar to Packard's figures<sup>2 3</sup>.

## SCOTOSIA.

*Scotosia*, Stephens, Illustr. Brit. Ent., Haust. iii. p. 259 (1829).

This genus is represented in our region by one species, which has an exceedingly wide range. *Scotosia* can at once be distinguished from the allied genera by the silky tuft of hair on the inner margin of secondaries in the males.

1. *Scotosia affirmata*.

*Scotosia affirmata*, Guen. Sp. gén. des Lép. x. p. 447, Phalén. t. 9. fig. 21<sup>1</sup>; Walk. Cat. xxv. p. 1348<sup>2</sup>; Snell. Tijdschr. voor Ent. xvii. p. 93<sup>3</sup>; Feld. & Rogenh. Reise der Novara, Lep. t. 131. fig. 37<sup>4</sup>.

*Scotosia dubiferata*, Walk. Cat. xxv. p. 1349<sup>5</sup>.

*Hab.* MEXICO, Cordova (*Rümelí*), Jalapa (*coll. Schaus, M. Trujillo*), Coatepec (*Brooks*); GUATEMALA (*Conradt, in mus. Staudinger*), San Gerónimo and Purula in Vera Paz, Zapote, Pantaleon (*Champion*); PANAMA, Chiriqui (*Arcé, in mus. D. ; Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA, Bogota<sup>3 4 5</sup>; ECUADOR; PERU; BRAZIL<sup>1 2</sup>, Rio Janeiro; ARGENTINE REPUBLIC.

The specimen figured by Felder and Rogenhofer<sup>4</sup> does not quite agree with Walker's type of *S. dubiferata*, but is certainly inseparable from *S. affirmata*, Guen. I very much doubt if the var. *bicolor*, Feld. & Rogenh. (*op. cit.* t. 131. fig. 38), from Colombia and Brazil, is conspecific with it.

## PTEROCYPHA.

*Pterocypha*, Herrich-Schäffer, Samml. aussercur. Schmctt. pp. 50, 65 (1850-58) ; Walker, Cat. xxv. p. 1365.

This genus is represented in our country by five species, not one of which appears to be common. *Pterocypha* is probably confined to Tropical America.

1. *Pterocypha gibbosaria*.

*Pterocypha gibbosaria*, Herr.-Schäff. Samml. aussereur. Schmctt. pp. 65, 82, t. 63. figg. 353, 354<sup>1</sup>.

*Scotosia gibbosaria*, Guen. Sp. gén. des Léop. x. p. 442<sup>2</sup>; Walk. Cat. xxv. p. 1369<sup>3</sup>.

*Hab.* PANAMA, Chiriqui (*Arcé*, in mus. D.).—BRAZIL<sup>1 2 3</sup>.

One specimen, sent many years ago by Arcé, is the only authority we have for including this insect in our fauna.

2. *Pterocypha floccosaria*.

*Scotosia floccosaria*, Walk. Cat. xxxv. p. 1685<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*).—COLOMBIA, Bogota<sup>1</sup>; ECUADOR; PERU; ARGENTINE REPUBLIC.

The Mexican specimen before me is almost identical with Walker's type, now in my own collection, except that the band crossing the primaries is rather darker.

*P. floccosaria* differs from all the allied species by its very black underside.

3. *Pterocypha umbrinata*.

*Scotosia umbrinata*, Guen. Sp. gén. des Léop. x. p. 443, Phalén. t. 10. fig. 2<sup>1</sup>; Walk. Cat. xxv. p. 1350<sup>2</sup>.

*Hab.* MEXICO, Cuesta de Misantla (*M. Trujillo*), Coatepec (*Brooks*), Cordova (*Rümeli*), Jalapa (*coll. Schaus*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).—COLOMBIA<sup>2</sup>; ECUADOR; BRAZIL<sup>1 2</sup>.

In some specimens of this species the brown band crossing the primaries is much darker than in others, the dark form coming very close to the var. *velutina*, Oberth.

4. *Pterocypha delineata*.

*Pterocypha delineata*, Walk. Cat. xxv. p. 1367<sup>1</sup>.

? *Pterocypha pannosata*, Guen. Sp. gén. des Léop. x. p. 442<sup>2</sup>; Walk. Cat. xxv. p. 1366<sup>3</sup>.

*Hab.* MEXICO, Durango city (*Becker*), Presidio de Mazatlan (*Forrer*), Mexico city (*Höge*), Jalapa (*M. Trujillo*), Coatepec (*coll. Schaus*; *Brooks*), Cordova (*Rümeli*); HONDURAS (*Wittkugel*, in mus. *Staudinger*).—ANTILLES, Haiti<sup>2</sup>, San Domingo<sup>1 3</sup>.

This species varies greatly in the colour of the bands crossing the primaries: in some specimens they are white, in others pale brown, and in others again dark brown.



### 5. *Pterocypha cometes*, sp. n. (Tab. LV. fig. 22.)

Primaries pale brownish-fawn-colour, with a greenish shade along the costal margin, apex, and outer margin, and with a brown line crossing near the base, several narrow brown lines beyond it crossing from the costal to the inner margin, a very fine waved white line crossing beyond the middle, and a marginal row of small white spots extending from the apex to the anal angle, the marginal line black, the fringe greyish-brown; secondaries brownish-fawn-colour, crossed beyond the middle from the costal to the inner margin by three faint waved lines; the underside pale greyish-brown, the outer margins of both wings broadly bordered with black, inside which are several narrow black lines, a rather large black spot at the end of the cell on the primaries: head and thorax greenish-fawn-colour, the antennæ, abdomen, and legs brownish-fawn-colour. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*), Paso de San Juan in Vera Cruz (*coll. Schaus*); GUATEMALA, Volcan de Santa Maria, Pacific Slope (*Richardson*), Volcan de Atitlan 2500 to 3500 feet (*Champion*).

Varies considerably in colour and in the distinctness of the lines crossing the wings. We figure Mr. Schaus's specimen, it being in much fresher condition than any of ours.

## ISCHNOPTERYX.

*Ischnopterix*, Hübner, Verz. bek. Schmett. p. 332 (1816).

*Syrtodes*, Guenée, Sp. gén. des Lép. x. p. 451; Walker, Cat. xxv. p. 1372.

Walker in his Catalogue included eight species in this genus, and others have since been added by Felder and Rogenhofer and Möschler. Eight species are here enumerated from Central America, half of which are described as new. *Ischnopteryx* is probably confined to Tropical America.

### 1. *Ischnopteryx chlorata*.

*Ischnopteris chlorata*, Hübn. Samml. exot. Schmett. t. 222. figg. 1-4<sup>1</sup>.

*Syrtodes chlorata*, Guen. Sp. gén. des Lép. x. p. 453<sup>2</sup>; Walk. Cat. xxv. p. 1374<sup>3</sup>.

*Ischnopteryx pexatata*, Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 412, t. 18. fig. 24<sup>4</sup>.

*Hab.* MEXICO, Jalapa (*Höge, M. Trujillo*), Coatepec (*coll. Schaus, Brooks*); PANAMA, Chiriqui (*Ribbe; Trötsch, in mus. Staudinger*), Bugaba, Volcan de Chiriqui 2000 to 4000 feet (*Champion*).—COLOMBIA; GUIANA, Surinam<sup>4</sup>.

Apparently the commonest species of the genus. The females vary to a considerable extent, scarcely two specimens being alike; the male also varies greatly in size. A specimen from Chiriqui in Dr. Staudinger's collection is the smallest I have seen.

### 2. *Ischnopteryx bryifera*.

*Syrtodes bryifera*, Feld. & Rogenh. Reise der Novara, Lep. t. 131. fig. 28 (♀)<sup>1</sup>.

*Hab.* MEXICO, Jalapa, Paso de San Juan (*coll. Schaus*); NICARAGUA, Chontales (*Belt*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—GUIANA<sup>1</sup>.

The male of this insect is very similar to the female; it is easily distinguished from the same sex of *I. chlorata*, Hübn., by its longer and more angular hind wings.

### 3. *Ischnopteryx rostellaria*.

*Syrctodes* (?) *rostellaria*, Feld. & Rogenh. Reise der Novara, Lep. t. 125. fig. 1 (♀)<sup>1</sup>.

*Hab.* MEXICO<sup>1</sup>, Jalapa, Coatepec, Paso de San Juan (*coll. Schaus*); GUATEMALA, San Gerónimo (*Champion*); COSTA RICA (*Van Patten*), Volcan de Irazu 6000 to 7000 feet (*Rogers*).

There are two forms of the female of this species: one like that figured by Felder and Rogenhofer<sup>1</sup>, and another without the white on the primaries, the latter resembling the male in colour.

### 4. *Ischnopteryx velledata*.

*Ischnopteryx velledata*, Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 413, t. 18. fig. 25<sup>1</sup>.

*Hab.* PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*). — GUIANA, Surinam<sup>1</sup>.

Two males have been received from Chiriqui. This species will probably have to be removed from *Ischnopteryx* when we know the two sexes. The shape of the hind wing in the male is very different from that of any species of the genus known to me.

### 5. *Ischnopteryx chryses*, sp. n. (Tab. LV. figg. 23, 24, ♂; 25, ♀.)

*Male*. Primaries dark sage-green, thickly irrorated with brown scales, and crossed from the costal to the inner margin by two zigzag, fine, reddish-brown lines, a fine waved submarginal white line extending from the costal margin to the anal angle and two small black streaks on the inner margin about the middle, the marginal line black, the fringe brown; secondaries black, broadly bordered with yellow at the apex; the underside of the primaries chrome-yellow, crossed from the costal to the inner margin by two black bands—the first near the base, quite narrow, the second very broad and beyond the middle,—and with the apex and fringe fawn-colour, that of the secondaries yellow, with the inner half dusky black, and a black band crossing the wing from the costal to the outer margin where it is widest: head, thorax, and upperside of the abdomen sage-green, the antennæ brown, the underside of the abdomen and the legs fawn-colour.—*Female*. Primaries dark reddish-brown, with the costal and outer margins and the apex pale greenish-brown, the white line not so distinct as in the male. Expanse, ♂ ♀, 1½ inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Bugaba, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

A very distinct species, not closely allied to any other known to me. We figure a pair from the Volcan de Chiriqui.

### 6. *Ischnopteryx canopus*, sp. n. (Tab. LV. figg. 26, 27, ♂.)

*Male*. Primaries dark brown, irrorated with green scales, crossed near the base from the costal to the inner margin by a green line edged with black, beyond which a black line crosses the wing, a dark brown spot on the costal margin near the apex, below which are three small dark brown spots, a fine white line partly crossing beyond the middle, the marginal line spotted with black, the fringe dark brown; secondaries brownish-black, with the apical portion bright orange-yellow; the underside of the primaries yellow, crossed about the middle from the costal to the inner margin by a rather wide black band, the inner margin from the base to the black band dark grey, a large oval black spot near the apex,



the apex greenish-fawn-colour,—that of the secondaries pale yellow, shaded with reddish-brown, and thickly irrorated with dark brown scales, crossed beyond the middle by an indistinct black waved line: head, thorax, and abdomen dark brown above, reddish-brown beneath, the antennæ dark brown, the legs reddish-brown. Expanse  $2\frac{1}{10}$  inches.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

Allied to *I. chryses*.

### 7. *Ischnopteryx* (?) *aristophilides*, sp. n. (Tab. LV. fig. 28, ♂.)

*Male.* Primaries dark brown, with the outer margin broadly bordered with greyish-brown, three spots near the apex and one close to the anal angle dark brown, the marginal line black, the fringe dark brown; secondaries pale brown, paler at the base and along the inner margin; the underside uniformly pale brown, the primaries with a whitish mark near the anal angle, both wings with a fine, waved, white marginal line: head, thorax, and antennæ dark brown, the abdomen and legs paler.—*Female.* Very similar to the male, but without the greyish-brown border to the primaries. Expanse  $2\frac{1}{10}$  inches.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

I place this species in the genus *Ischnopteryx* with considerable doubt.

### 8. *Ischnopteryx* (?) *polymenes*, sp. n. (Tab. LV. fig. 29, ♂.)

*Male.* Primaries dark brown, crossed from the costal to the inner margin by two darker brown waved lines—the first near the base, the second beyond the middle,—with a dark brown spot at the end of the cell, and a marginal row of small brownish-white spots extending from the apex to the anal angle, the fringe dark brown; secondaries greyish-brown, crossed beyond the middle from the costal to the inner margin by a faint waved brown line; the underside uniformly pale brown, the end of each vein yellowish-white: head, antennæ, thorax, abdomen, and legs dark brown.—*Female.* Very similar to the male. Expanse  $1\frac{3}{4}$  inch.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

Allied to the preceding species, *I. aristophilides*, but very distinct from it in both sexes.

## SPARGANIA.

*Spargania*, Guenée, Sp. gén. des Léop. x. p. 454 (1857); Walker, Cat. xxv. p. 1375.

### 1. *Spargania tesserulata*.

*Spargania tesserulata*, Feld. & Rogenh. Reise der Novara, Lep. t. 131. figg. 39, 39 a (♂) <sup>1</sup>.

*Spargania longipalpata*, Thierry-Mieg, Le Nat. 1892, p. 262 (♂) <sup>2</sup>.

*Hab.* MEXICO, Jalapa (*F. D. G., Höge; coll. Schaus*), Coatepec (*Brooks; coll. Schaus*); GUATEMALA, San Gerónimo, Purula (*Champion*); COSTA RICA, Rio Sucio (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 4000 feet (*Champion*).—COLOMBIA, Bogota <sup>1</sup>; PERU <sup>2</sup>.

With a large series of specimens before me I am unable to consider *S. longipalpata*, Thierry-Mieg, a distinct species. These specimens vary considerably as regards the dark markings on the primaries, and also in the extent of the white on the secondaries, one Panama example having the secondaries almost entirely black, excepting the two

white spots near the apex. Specimens from Bogota in my own collection are equally variable.

### HAMMAPTERA.

*Hammaptera*, Herrich-Schäffer, Samml. aussercur. Schmett. pp. 52, 66 (1850-58).

The type of this genus is *H. probataria*, Herr.-Schäff., merged in *Cidaria* by Guenée.

#### 1. *Hammaptera probataria*.

*Hammaptera probataria*, Herr.-Schäff. Samml. aussercur. Schmett. p. 66, figg. 404, 405<sup>1</sup>.

*Cidaria probataria*, Guen. Sp. gén. des Lép. x. p. 459<sup>2</sup>; Walk. Cat. xxv. p. 1392<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*Höge*, *M. Trujillo*), Cordova (*Rümeli*), Coatepec (*Brooks & coll. Schaus*), Orizaba, Amecameca (*F. D. G.*); GUATEMALA, San Gerónimo, Panajachel (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet, Rio Sucio (*Rogers*).—VENEZUELA<sup>1 2 3</sup>.

A very variable species.

#### 2. *Hammaptera perturbata*.

*Pterocypha perturbata*, Walk. Cat. xxv. p. 1367<sup>1</sup>.

*Hab.* MEXICO, Coatepec (*coll. Schaus*).—ANTILLES, San Domingo<sup>1</sup>.

One specimen in Mr. Schaus's collection, almost identical with Walker's type in the National Museum.

#### 3. *Hammaptera coras*, sp. n. (Tab. LVI. fig. 2.)

Primaries sage-green, crossed in the middle from the costal to the inner margin by a wide brown band, on either side of which are several fine waved dark brown lines, the fringe greenish-brown; secondaries pale fawn-colour, crossed below the middle by an indistinct waved line, the base and inner portion clouded with blackish-brown, the fringe fawn-colour: head and thorax dark green, the abdomen pale brown. Expanse 1½ inch.

*Hab.* COSTA RICA, Rio Sucio (*Rogers*).

One specimen.

#### 4. *Hammaptera chloridata*.

*Cidaria (Hammaptera) chloridata*, Feld. & Rogenh. Reisc der Novara, Lep. t. 132. fig. 18 (♂)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*Höge*), Cordova (*Rümeli*), Cuesta de Misantla (*M. Trujillo*); GUATEMALA, Cerro Zunil, San Gerónimo (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—VENEZUELA<sup>1</sup>.

I have a good series of specimens before me from within our limits, but they all are paler in colour than Felder and Rogenhofer's figure; it is probable they have faded.



### 5. *Hammaptera augustaria*.

*Larentia augustaria*, Herr.-Schäff. Samml. aussereur. Schmett. p. 66, fig. 356<sup>1</sup>.

*Eucosmia augustaria*, Herr.-Schäff. loc. cit. p. 82<sup>2</sup>.

*Hab.* MEXICO, Coatepec (*coll. Schaus*); GUATEMALA, Panima in Vera Paz, Panajachel 5000 feet, San Isidro 1600 feet (*Champion*); COSTA RICA, Rio Sucio (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—BRAZIL<sup>1</sup>.

Varies as regards the black border of the secondaries, some specimens having these wings entirely yellow.

### 6. *Hammaptera subguttaria*.

*Larentia subguttaria*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 66, 83, figg. 406, 407<sup>1</sup>.

*Cidaria subguttaria*, Guen. Sp. gén. des Lép. x. p. 458<sup>2</sup>; Walk. Cat. xxv. p. 1391<sup>3</sup>; Snell. Tijdschr. voor Ent. xvii. p. 94<sup>4</sup>.

*Scotosia vacillata*, Walk. Cat. xxv. p. 1350<sup>5</sup>.

*Pterocypha imperviata*, Walk. loc. cit. p. 1370<sup>6</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, Cerro Zunil 4000 to 5000 feet, Zapote, Dueñas, San Gerónimo (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet, Rio Sucio (*Rogers*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA<sup>5</sup>, Bogota<sup>4 5 6</sup>; VENEZUELA<sup>1 2 3 5 6</sup>; ECUADOR.

A common species throughout the greater part of our region. It varies in the distinctness of the pinkish-white lines crossing the primaries.

### 7. *Hammaptera combustaria*.

*Larentia combustaria*, Herr.-Schäff. Samml. aussereur. Schmett. p. 66, fig. 355<sup>1</sup>.

*Eucosmia combustaria*, Herr.-Schäff. loc. cit. p. 82<sup>2</sup>.

*Cidaria combustaria*, Snell. Tijdschr. voor Ent. xvii. p. 93<sup>3</sup>.

*Hab.* GUATEMALA, Volcan de Atitlan 2500 feet (*Champion*).—COLOMBIA<sup>3</sup>.

One specimen from Guatemala very similar to Herrich-Schäffer's figure, but not so highly coloured. I do not consider *H. combustaria*, Herr.-Schäff., to be conspecific with *H. jacintharia* (Guen.), with which it is united by Guenée, Walker, and Snellen.

### 8. *Hammaptera* (?) *cylon*, sp. n. (Tab. LVI. fig. 3.)

Primaries reddish-brown, paler about the centre, the base and a wide band before the middle crossing from the costal to the inner margin dark brown, beyond which are several indistinct waved brown lines, two small white dots near the apex, the marginal line black, the fringe reddish-brown; secondaries brownish-cream-colour, dusky at the anal angle, above which two faint waved lines partly cross the wing, the marginal line black, the fringe fawn-colour. Expanse 1¾ inch.

*Hab.* MEXICO, Amecameca in Morelos (*F. D. G.*).

One specimen, captured by Mr. Godman in April 1888.

BIOL. CENTR.-AMER., Heter., Vol. II., August 1893.

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## CIDARIA.

*Cidaria*, Treitschke, Schmett. Europ. vi. 2, p. 140 (1828); Walker, Cat. xxv. p. 1376.

1. *Cidaria polyphonta*, sp. n. (Tab. LVI. figg. 1, ♂; 4, ♀.)

*Male*. Primaries dark sage-green, crossed from the costal to the inner margin by five reddish-brown waved bands, a wide white band crossing beyond the middle but not reaching the outer margin, two pinkish spots near the anal angle, and a row of small white dots along the outer margin, the marginal line dark brown, the fringe brown, whitish near the anal angle; secondaries uniformly greyish-black, the fringe pale brown; the underside dusky-brown, with a white band on the primaries as above: head and thorax green, the upperside of the abdomen brown, the antennæ and palpi black, the underside of the abdomen and the legs pale brown.—*Female*. Very similar to the male, but the primaries with the white band more broken into spots and with a very distinct white dot close to the inner margin. Expanse, ♂ 2, ♀  $2\frac{1}{10}$  inches.

*Hab.* MEXICO, Coatepec (*coll. Schaus*); COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).

I have only seen two specimens of this fine species—a male from Costa Rica and a female from Eastern Mexico.

2. *Cidaria* (?) *prema*, sp. n. (Tab. LVI. fig. 5, ♂.)

*Male*. Primaries pale greenish-brown, crossed by darker greenish-brown bands, the costal margin with six somewhat V-shaped black marks which are edged with white, a submarginal waved white line extending from the costal margin near the apex to the anal angle, a black streak at the apex, joining a large bluish-grey spot below it on the outer margin, a row of small black spots crossing the wing beyond the middle, and a white spot on the inner margin, the marginal line black, the fringe alternately black and greenish-white; secondaries grey, darker round the outer margin from the apex to the anal angle, and with two faint waved dark grey lines—the first, beyond the middle, extending from the costal to the inner margin, the second submarginal, extending from the apex to the anal angle,—the fringe alternately black and greenish-white; the underside greyish, with the black markings very much as above, but much more distinct on the secondaries: head white, the antennæ and palpi black, the thorax and tegulæ pale greenish-brown, the abdomen and legs brownish-grey. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

One specimen. Mr. Schaus informs me that this species is common at Las Vigas.

3. *Cidaria* (?) *pomponia*, sp. n. (Tab. LVI. figg. 6, ♂; 7, ♀.)

*Male*. Primaries pale green, crossed before the end of the cell by a wide blackish-brown band, beyond which are two large patches of the same colour—the first near the apex, the second close to the anal angle,—a streak at the end of the cell and two small spots beyond it white, the marginal line spotted with dark brown; secondaries yellowish-white, the fringe yellowish: head and thorax green, the abdomen yellowish-white.—*Female*. Similar to the male, but with the markings on the primaries smaller and more distinct; the underside of the primaries pale yellow, with the costal margin and apex greenish, and the black markings as above, but not so distinct,—that of the secondaries brownish-grey, thickly irrorated with brown scales, and crossed beyond the middle by two faint brown lines. Expanse, ♂  $1\frac{1}{2}$ , ♀  $1\frac{1}{10}$  inch.

*Hab.* MEXICO, Milpas in Durango 5900 feet (*Forrer*), Real del Monte in Hidalgo (*M. Trujillo*).

Three males and one female, the males all in poor condition.



4. *Cidaria* (?) *damo*, sp. n. (Tab. LVI. figg. 8, ♂; 9, ♀.)

*Male*. Primaries greenish-white, white from the end of the cell almost to the outer margin, with a wide brown band near the base crossing from the costal to the inner margin, beyond which are several brown marks and small broken black lines, a submarginal broken brown band edged with a black line on the inner side extending from the apex to the anal angle, the veins along the outer margin each with a small brown streak on either side; secondaries creamy-white, crossed below the middle from the costal to the inner margin by a very indistinct waved greyish line, the fringe greyish; the underside greyish-white, the primaries with dark markings as above, but much less distinct: head and thorax greenish-white, the antennæ and palpi black, the abdomen and legs pale brown, the abdomen with a black spot on the middle of each segment.—*Female*. Very similar to the male, but much more deeply coloured. Expanse, ♂  $1\frac{3}{4}$ , ♀ 2 inches.

*Hab.* MEXICO, Milpas in Durango 5900 feet (*Forrer*), Real del Monte in Hidalgo (*M. Trujillo*).

Allied to *C. pomponia*, from which it may be easily distinguished by its white hind wings.

5. *Cidaria cyriades*, sp. n. (Tab. LVI. fig. 10, ♂.)

*Male*. Primaries pale green, crossed near the base from the costal to the inner margin by three brown bands, which are wider in some specimens than in others, and with two brown marks close to the apex, and several brown spots along the outer margin close to the anal angle, the fringe alternately green and brown; secondaries white, with a fine brown streak on each side of the veins round the outer margin, the fringe white; the underside white, the primaries with dark markings as above, but much less distinct: head and thorax greenish, the antennæ, palpi, abdomen, and legs pale brown.—*Female*. Very similar to the male, but with the markings on the primaries rather larger, darker, and more distinct. Expanse, ♂  $1\frac{3}{10}$ , ♀  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Coatepec (*Brooks*), Las Vigas (*coll. Schaus*).

We figure a male from Coatepec. An example of the same sex in Mr. Schaus's collection is rather smaller than ours.

## HYDRIOMENA.

*Hydriomena*, Hübner, Verz. bek. Schmett. p. 322 (1816); Packard, in Report of the U.S. Geol. Survey of the Territ. x. p. 90, t. 1. fig. 6 (neurulation).

*Ypsipetes*, Stephens, Nomencl. Brit. Ins. p. 44 (1829); Guenée, Sp. gén. des Lép. x. p. 376; Walker, Cat. xxiv. p. 1266.

This genus is represented in our region by seven species, two of which are common to Europe and North America. The Central American representatives are mostly from a great elevation.

1. *Hydriomena sordidata*. (Tab. LVI. figg. 11–15, ♂, 16, ♀, vars.)

*Phalæna sordidata*, Fabr. Ent. Syst. iii. 2, p. 185<sup>1</sup>.

*Hydriomena sordidata*, Pack. in Report of the U.S. Geol. Survey of the Territ. x. p. 96, t. 8. figg. 31, 34, 35<sup>2</sup>.

*Geometra elutata*, Hübn. Europ. Schmett., Geom. t. 43. fig. 224, t. 74. figg. 381–385<sup>3</sup>.

*Ypsipetes elutata*, Guen. Sp. gén. des Lép. x. p. 378<sup>4</sup>; Walk. Cat. xxiv. p. 1267<sup>5</sup>.

*Hab.* NORTH AMERICA, California<sup>2</sup>, Sanzalito<sup>2</sup>.—GUATEMALA (*Conradt, in mus. Staudinger*), Totonicapam 8500 to 10,500 feet (*Champion*).—EUROPE<sup>4 5</sup>.

The numerous specimens received (about fifty) from Mexico and Guatemala vary to a great extent, and I am quite unable to separate them from others from Europe. The insect also occurs in California. Many of the Central-American examples are almost identical with some of the English ones in my own collection. We figure six beautiful varieties, five males and one female, all from the summit of the Cordillera, Totonicapam, Guatemala. According to Mr. Champion, the insect is not uncommon in the Los Altos region of Guatemala, where it may be found on the trunks of pines in the daytime.

For the full synonymy of this species see Walker<sup>5</sup> and Packard<sup>2</sup>.

## 2. *Hydriomena trifasciata*.

*Phalæna (Geometra) trifasciata*, Borkh. Europ. Schmett. v. p. 308 (1794)<sup>1</sup>.

*Hydriomena trifasciata*, Pack. in Report of the U.S. Geol. Survey of the Territ. x. p. 91, t. 8. fig. 29<sup>2</sup>.

*Hydriomena impluviata*, Steph. Cat. Brit. Lep. p. 195 (1850)<sup>3</sup>.

*Ypsipetes impluviata*, Guen. Sp. gén. des Lép. x. p. 377<sup>4</sup>; Walk. Cat. xxiv. p. 1267<sup>5</sup>.

*Ypsipetes pluviata*, Guen. loc. cit. p. 378<sup>6</sup>; Walk. loc. cit. p. 1268<sup>7</sup>.

*Hab.* NORTH AMERICA<sup>6 7</sup>, Labrador<sup>2</sup>, Canada<sup>2</sup>, United States<sup>2</sup>.—MEXICO, Amecameca in Morelos (*F. D. G.*).—EUROPE<sup>1 4</sup>.

One specimen, captured by Mr. Godman in April 1888.

## 3. *Hydriomena cuma*, sp. n. (Tab. LVI. fig. 17, ♂.)

*Male*. Primaries pale greenish-brown, crossed by several very indistinct fine waved brown lines, and with a submarginal smoky-brown line extending from the apex to the anal angle, and a dark brown spot on the inner margin about the middle, the marginal line black, the fringe greenish-brown; secondaries glossy white, the marginal line dark brown, the fringe white; the underside of the primaries dusky brown, that of the secondaries white: head, antennæ, palpi, and thorax greenish-brown, the abdomen and legs pale brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* GUATEMALA, Totonicapam 10,000 feet (*Champion*).

One specimen. Allied to *H. sordidata* (Fabr.), from which it may be at once distinguished by the white hind wings.

## 4. *Hydriomena proba*, sp. n. (Tab. LVI. figg. 18, ♂; 19, ♀.)

*Male*. Primaries dark brown, crossed from the costal to the inner margin by greyish-brown bands, the fringe dark brown; secondaries reddish-fawn-colour, the marginal line brown, the fringe alternately brown and fawn-colour; the underside brownish-fawn-colour, the primaries with several dark brown spots on the costal margin: head, antennæ, palpi, thorax, abdomen, and legs brown.—*Female*. Similar to the male, but with the markings greyer and more distinct on the primaries. Expanse, ♂  $1\frac{3}{4}$ , ♀  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Puebla 7000 feet (*F. D. G.*), Las Vigas in Vera Cruz (*coll. Schaus*).



We figure a rather dark male captured by Mr. Godman in April 1888, and a female from Las Vigas in Mr. Schaus's collection.

5. **Hydriomena cydra**, sp. n. (Tab. LVI. figg. 20, ♂; 21, ♀.)

*Male*. Primaries dull brownish-green, crossed from the costal to the inner margin by four bands of dark brown spots, some of which are indistinct, and with a large brown spot close to the apex, the marginal line dark brown, the fringe alternately green and dark brown; secondaries smoky brown, the marginal line darker, the fringe alternately light and dark brown; the underside pale smoky brown: head and thorax pale green, the antennæ, abdomen, and legs brown.—*Female*. Similar to the male, but larger and with the bands more distinct. Expanse, ♂  $1\frac{1}{2}$ , ♀  $1\frac{3}{4}$  inch.

*Hab.* GUATEMALA, Totonicapam 8500 to 10,500 feet, Volcan de Agua 8500 to 10,000 feet (*Champion*).

Five males and three females. This species varies slightly in the distinctness of the markings on the primaries. We figure a pair from Totonicapam.

6. **Hydriomena dada**, sp. n. (Tab. LVI. figg. 22, ♂; 23, ♀.)

*Male*. Primaries greyish-brown, crossed about the middle from the costal to the inner margin by a wide dark brown band, beyond which the wing is clouded with reddish-brown, and with some dark brown markings near the apex, and some detached dark brown spots along the outer margin; secondaries pale grey, the fringe greyish-brown; the underside of the primaries brown, with the apex, outer and inner margins pale grey, that of the secondaries pale grey: head, antennæ, and thorax brown, the abdomen and legs greyish-brown.—*Female*. Similar to the male, but with the markings on the primaries paler and more indistinct. Expanse, ♂ ♀,  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Milpas in Durango 5900 feet (*Forrer*).

Two examples.

7. **Hydriomena cynosura**, sp. n. (Tab. LVI. fig. 24, ♂.)

*Male*. Primaries pale greyish-fawn-colour, crossed beyond the middle from the costal to the inner margin by a rather wide reddish-fawn-coloured band, and with two zigzag black lines crossing nearer the base, the fringe alternately dark and light fawn-colour; secondaries pale greyish-fawn-colour, the fringe paler: the underside pale greyish-white: head, thorax, antennæ, and palpi pale brown, the abdomen and legs greyish-brown. Expanse  $1\frac{7}{10}$  inch.

*Hab.* MEXICO, Las Vigas in Vera Cruz (*coll. Schaus*).

One specimen.

EPIRRHOE.

*Epirrhoe*, Hübner, Verz. bek. Schmett. p. 328 (1816).

1. **Epirrhoe privernaria**.

*Larentia privernaria*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 66, 83, figg. 408, 409<sup>1</sup>.

*Spargania* (?) *privernaria*, Guen. Sp. gén. des Lép. x. p. 455<sup>2</sup>; Walk. Cat. xxv. p. 1376<sup>3</sup>.

*Hab.* GUATEMALA (*Conradt, in mus. Staudinger*).—VENEZUELA<sup>1 2 3</sup>.

One specimen from Guatemala, a female, very similar to Herrich-Schäffer's figure, but more dusky at the base and inner portion of the secondaries.

2. *Epirrhoe crypta*, sp. n. (Tab. LVI. fig. 25.)

Primaries pale greenish-fawn-colour, crossed about the middle by a wide waved dark brown band, which is edged on each side with a narrow waved white line, a submarginal waved white line extending from the apex to the anal angle, the costal margin spotted with brown; secondaries yellow, with the base, anal angle, and part of the outer margin dusky brown; the underside pale yellow, without markings: head, thorax, abdomen, and legs greenish-fawn-colour, the antennæ pale brown. Expanse  $1\frac{3}{10}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 2000 to 4000 feet (*Champion*).

Two specimens. Allied to *E. priveritaria*, but differing from it by the plain yellow underside.

3. *Epirrhoe दौरa*, sp. n. (Tab. LVI. fig. 26, ♂.)

*Male.* Primaries greyish-brown, crossed about the middle from the costal to the inner margin by a wide dark brown band, which is edged on the outer side with fine greyish-white waved lines; secondaries pale yellow, the marginal line brown; the fringe greyish-brown; the underside pale yellowish-brown, with indistinct bands on the primaries: head, thorax, and abdomen pale brown.—*Female.* Very similar to the male, but rather darker in colour, and with the lines crossing the primaries more distinct. Expanse, ♂  $1\frac{1}{10}$ , ♀  $1\frac{3}{10}$  inch.

*Hab.* MEXICO, Orizaba (*F. D. G.*), Coatepec (*Brooks*), Las Vigas (*coll. Schaus*).

We figure a male from Mr. Schaus's collection.

4. *Epirrhoe cyllene*, sp. n. (Tab. LVI. fig. 27.)

Primaries pale yellowish-green shaded with brown, thickly striated with pale blue metallic lines, and crossed from the costal to the inner margin by three waved brown lines—the first near the base, the second beyond the middle, edged with white, and the third submarginal; secondaries pale fawn-colour, darker round the outer margin; the fringe fawn-colour; the underside orange-yellow: head, thorax, antennæ, and legs greenish-brown; (abdomen wanting). Expanse  $1\frac{1}{4}$  inch.

*Hab.* COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).

One specimen.

5. *Epirrhoe psyra*, sp. n. (Tab. LVI. fig. 28, ♂.)

*Male.* Primaries dark brown, with a distinct black spot at the end of the cell, crossed near the base from the costal to the inner margin by two pale yellowish-brown lines, a third waved yellowish-brown line crossing the wing beyond the middle, and a pale yellowish-brown band extending from the costal margin to the middle of the outer margin, the fringe dark brown; secondaries pale yellow, the apex and outer margin broadly bordered with blackish-brown, the fringe dark brown; the underside of the primaries brown, crossed beyond the middle by a wide yellow band, that of the secondaries very much as above, but with a black spot at the end of the cell: head, antennæ, thorax, abdomen, and legs brown, the collar and tegulæ yellowish-brown.—*Female.* Very similar to the male, but with the light markings slightly wider. Expanse, ♂  $1\frac{1}{10}$ , ♀  $1\frac{1}{4}$  inch.

*Hab.* GUATEMALA (*Conradt, in mus. Staudinger*), Las Mercedes 3000 feet (*Champion*).

The three specimens before me are almost identical. We figure a male from Las Mercedes.



### 6. *Epirrhoe fringillata*.

*Cidaria fringillata*, Guen. Sp. gén. des Léop. x. p. 462<sup>1</sup>; Walk. Cat. xxv. p. 1393<sup>2</sup>.

*Hab.* MEXICO, State of Durango (*Forrer*), Jalapa (*Trujillo & coll. Schaus*), Cordova (*Rümeli*), Coatepec (*Brooks*), Orizaba (*F. D. G.*), Atoyac in Vera Cruz (*H. H. Smith*); GUATEMALA, San Gerónimo, Volcan de Atitlan 2500 to 3500 feet (*Champion*); COSTA RICA, Rio Sucio (*Rogers*).—ECUADOR; BRAZIL<sup>1 2</sup>.

This species is exceedingly variable in size and colour, and in the distinctness of the line crossing the primaries. I have a very large series of specimens before me, hardly two of which are alike.

### 7. *Epirrhoe circumcidata*.

*Cidaria circumcidata*, Snell. Tijdschr. voor Ent. xvii. p. 94, t. 7. fig. 3<sup>1</sup>.

*Hab.* COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).—COLOMBIA, Bogota<sup>1</sup>; ECUADOR.

One specimen from Costa Rica, very similar to Snellen's figure.

### 8. *Epirrhoe pompilia*, sp. n. (Tab. LVII. fig. 1.)

Primaries dark brown, crossed from the costal to the inner margin by four very indistinct waved greenish-brown lines; secondaries smoky black, darker at the apex and round the outer margin: head, antennæ, and thorax dark brown, the abdomen and legs blackish-brown. Expanse  $1\frac{3}{10}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen, which I believe to be a female.

### 9. *Epirrhoe infundibulata*.

*Coremia infundibulata*, Guen. Sp. gén. des Léop. x. p. 412<sup>1</sup>; Walk. Cat. xxv. p. 1309<sup>2</sup>.

*Melanippe producta*, Walk. loc. cit. p. 1297<sup>3</sup>.

*Cidaria instipata*, Walk. loc. cit. p. 1394<sup>4</sup>.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet, Rio Sucio (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—COLOMBIA<sup>1</sup>; VENEZUELA<sup>2 3 4</sup>; BRAZIL<sup>1 2 4</sup>.

This species varies in the extent of the markings on the primaries.

### 10. *Epirrhoe extensata*.

*Cidaria extensata*, Walk. Cat. xxv. p. 1394<sup>1</sup>.

*Hab.* COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).—COLOMBIA, Bogota<sup>1</sup>; ECUADOR.

The only specimen received from our region is of a browner colour than any of those from Ecuador in my own collection.

11. *Epirrhoe lichenea*?

*Cidaria lichenea*, Oberth. Etudes d'Ent. vii. p. 34, t. 3. fig. 6<sup>1</sup>.

*Hab.* GUATEMALA, Totonicapam 10,000 feet (*Champion*).—PERU, Tambillo<sup>1</sup>.

One worn specimen, possibly belonging to this species.

12. *Epirrhoe* — ?

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*); GUATEMALA, San Gerónimo (*Champion*).

Several specimens, none of them in sufficiently good condition to describe.

13. *Epirrhoe conglomerata*.

*Cidaria conglomerata*, Walk. Cat. xxv. p. 1395<sup>1</sup>.

? *Spargania cultata*, Guen. Sp. gén. des Léop. x. p. 455<sup>2</sup>; Walk. Cat. xxv. p. 1376<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo & coll. Schaus*), Cuesta de Misantla (*M. Trujillo*); GUATEMALA (*Conradt, in mus. Staudinger*), Purula in Vera Paz (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—VENEZUELA<sup>1</sup>; BRAZIL<sup>1</sup>.

A common species within our limits. It is exceedingly variable, some specimens being almost white, while others are well marked with brown lines; hardly two specimens are alike. The locality for *Spargania cultata* was unknown to Guenée<sup>2</sup>. If Guenée's and Walker's names really apply to the same species, the name *cultata* will have to be retained.

## MELANIPPE.

*Melanippe*, Duponchel, Hist. Nat. Léop. Fr., Nocturnes, iv. 2, p. 111 (1829); Walker, Cat. xxv. p. 1281.

This genus is represented in our region by two species, both of them apparently rare. From North America a considerable number of species are known.

1. *Melanippe pontina*, sp. n. (Tab. LVII. fig. 2.)

Primaries and secondaries greyish-white; the primaries with the base and three waved bands crossing from the costal to the inner margin pale brown, the third band being broken into spots and edged with a white line on the outer side, a submarginal row of small black dots extending from the apex almost to the anal angle, the marginal line spotted with black, the fringe greyish-white; the secondaries with the marginal line spotted with black near the anal angle; the underside greyish-white, the primaries with the apex and a spot at the end of the cell blackish-brown: head, thorax, abdomen, and legs greyish-brown, the antennæ pale brown. Expanse  $1\frac{4}{5}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Gerónimo (*Champion*).

This species varies in the distinctness of the brown bands crossing the primaries.



2. **Melanippe cyarda**, sp. n. (Tab. LVII. fig. 3.)

*Female*. Primaries and secondaries white; the primaries with the base, costal margin, a wide band partly crossing the wing, the apex, and a round spot on the inner margin fawn-colour; the secondaries with the outer margin dusky; the fringe greyish-white: head, thorax, abdomen, and legs brownish-white, the antennæ pale brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Coatepec (*Brooks*).

One specimen, in poor condition.

COREMIA.

*Coremia*, Guenée, Sp. gén. des Lép. x. p. 408 (1857); Walker, Cat. xxv. p. 1303.

Walker has enumerated forty-seven species of this genus from all parts of the world. From within our limits we have received representatives of six species, four of which are described as new.

1. **Coremia cinereolimitata**. (Tab. LVII. fig. 4, ♂.)

*Cidaria cinereolimitata*, Thierry-Mieg, Le Nat. 1892, p. 235<sup>1</sup>.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).—COLOMBIA<sup>1</sup>; ECUADOR; BRAZIL.

We figure a male from the Volcan de Irazu. It agrees perfectly with the type, which has been kindly submitted to me by Mons. P. Thierry-Mieg.

2. **Coremia convallaria**.

*Coremia convallaria*, Guen. Sp. gén. des Lép. x. p. 410<sup>1</sup>; Walk. Cat. xxv. p. 1308<sup>2</sup>.

*Coremia defensaria*, Guen. loc. cit. p. 411<sup>3</sup>; Walk. Cat. xxv. p. 1308<sup>4</sup>.

*Hab.* NORTH AMERICA, California<sup>1 2 3 4</sup>.—MEXICO, Milpas in Durango 5900 feet (*Forrer*), Las Vigas (*coll. Schaus*), Orizaba (*F. D. G.*).

We have received a few specimens of this insect, all in poor condition.

3. **Coremia procilla**, sp. n. (Tab. LVII. fig. 5.)

*Male*. Primaries and secondaries pale brown, the primaries with the base and a wide band crossing about the middle from the costal to the inner margin dark brown, the fringe of both wings brown; the underside pale reddish-brown: head, antennæ, thorax, abdomen, and legs brown. Expanse  $1\frac{1}{10}$  inch.

*Hab.* GUATEMALA, Totonicapam 8500 to 10,500 feet (*Champion*).

This species varies in the distinctness of the band crossing the primaries. We figure a dark-banded specimen.

4. **Coremia praxila**, sp. n. (Tab. LVII. fig. 6.)

Primaries pale brown, crossed from the costal to the inner margin by two bands—the first near the base, very dark brown, the second reddish-brown,—and with a pale brown spot at the apex, the fringe brown; secondaries cream-colour, slightly spotted with brown on the inner margin; the underside cream-colour, slightly irrorated with brown scales: head, antennæ, thorax, and abdomen dark brown. Expanse 1 inch.

BIOL. CENTR.-AMER., Heter., Vol. II., August 1893.

*Hab.* GUATEMALA, Quiché Mountains 9000 feet (*Champion*).

One specimen. Allied to *C. procilla*.

5. **Coremia cyllene**, sp. n. (Tab. LVII. fig. 7.)

*Male.* Primaries and secondaries pale greyish-fawn-colour; the primaries crossed from the costal to the inner margin by a wide brown band, which is waved on the outer side and edged with a greyish line, a sub-marginal row of very minute greyish dots extending from the apex to the anal angle, the fringe pale fawn-colour; the secondaries darker at the base and round the outer margin from the apex to the anal angle, the fringe greyish-fawn-colour; the underside much as above, but paler in colour: head, thorax, abdomen, and legs brownish-fawn-colour. Expanse 1 inch.

*Hab.* MEXICO, Amecameca in Morelos (*F. D. G.*).

Two specimens, captured by Mr. Godman in April 1888.

6. **Coremia cyane**, sp. n. (Tab. LVII. fig. 8.)

Primaries dark reddish-fawn-colour, crossed about the middle from the costal to the inner margin by a rather wide blackish-brown band; secondaries greyish-white, dusky at the anal angle and round the outer margin; the fringe dark grey; the underside dark greyish-brown: head, antennæ, thorax, and abdomen brown. Expanse 1 inch.

*Hab.* COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).

One specimen.

PSALIODES.

*Psaliodes*, Guenée, Sp. gén. des Lép. x. p. 480 (1857); Walker, Cat. xxv. p. 1428.

Walker, in his Catalogue, included five species in this genus, all of which are from Tropical South America, and others have since been described by Snellen.

Twenty species are here enumerated from within our limits, seventeen of which are described as new.

1. **Psaliodes nucleata**.

*Psaliodes nucleata*, Guen. Sp. gén. des Lép. x. p. 481<sup>1</sup>; Walk. Cat. xxv. p. 1429<sup>2</sup>.

*Hab.* GUATEMALA, Cerro Zunil 4000 to 5000 feet, San Isidro 1600 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet, Caché (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—BRAZIL<sup>1 2</sup>.

I have only seen five specimens of this apparently rare species.

2. **Psaliodes crotona**, sp. n. (Tab. LVII. fig. 9.)

*Male.* Primaries yellowish-fawn-colour, dark brown along the costal margin, with a broken brown band crossing about the middle, a large dark brown patch on the outer margin close to the apex, and four fine zigzag white lines crossing from the costal to the inner margin, the fringe yellow and brown; secondaries greyish-white, the fringe yellowish: head, antennæ, thorax, and abdomen brown. Expanse 1 inch.

*Hab.* MEXICO, Jalapa, Las Vigas (*coll. Schaus*); GUATEMALA, Totonicapam 8500 to 10,500 feet (*Champion*).



This species is allied to *P. nucleata*, Guen. It varies in colour and in the distinctness of the markings on the primaries. We have a good series of specimens from Totonicapam.

3. *Psaliodes pomona*, sp. n. (Tab. LVII. fig. 10, ♂.)

*Male*. Primaries brown, crossed from the costal to the inner margin by four waved white lines and from the costal margin near the apex to the outer margin by a curved white line (this line is much more distinct in some specimens than in others), the fringe dark brown; secondaries brownish-grey; the underside reddish-brown: head, antennæ, thorax, and abdomen brown. Expanse  $1\frac{3}{10}$  inch.

*Hab.* MEXICO, Coatepec (*coll. Schaus*); GUATEMALA, Totonicapam 8500 to 10,500 feet (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Allied to *P. crotona*, from which it may be distinguished by its larger size and darker brown colouring. The Mexican specimen in Mr. Schaus's collection has the primaries more distinctly marked than in either of the other specimens before me, but on the underside it is almost identical with them.

4. *Psaliodes damia*, sp. n. (Tab. LVII. fig. 11.)

Primaries and secondaries dark brown; the primaries irrorated at the apex and near the anal angle with pale brown scales, and crossed beyond the middle from the costal to the inner margin by a paler brown band, which is edged on the inner side with a very fine waved white line; the fringe of both wings alternately light and dark brown: head, antennæ, thorax, abdomen, and legs brown. Expanse 1 inch.

*Hab.* GUATEMALA, San Isidro 1600 feet (*Champion*).

One specimen, probably a female.

5. *Psaliodes cydna*, sp. n. (Tab. LVII. fig. 12, ♂.)

*Male*. Primaries and secondaries white; the primaries with the base, costal margin, a wide band crossing from the costal to the inner margin, and a large spot on the outer margin close to the apex dark brown, the fringe alternately brown and white; the secondaries faintly tinged with brown at the apex and round the outer margin, the fringe white; the underside brownish-white, the primaries yellowish-brown along the costal margin: head and palpi white, the thorax, abdomen, legs, and antennæ brown.—*Female*. Very similar to the male. Expanse 1 inch.

*Hab.* MEXICO, Omilteme in Guerrero 8000 feet (*H. H. Smith*); GUATEMALA, Totonicapam 8500 to 10,500 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

Varies in the width of the brown band crossing the primaries: in the Mexican specimens it is narrow and more broken. We figure a specimen from Totonicapam.

6. *Psaliodes dædala*, sp. n. (Tab. LVII. figg. 13, ♀; 14, ♂, var.)

*Male*. Primaries pale greenish-brown, darker along the outer margin, crossed close to the base from the costal to the inner margin by a fine white waved line, and about the middle by a wide dark brown waved band, the latter edged on either side with a white line, a submarginal row of small white dots extending from the costal margin to the anal angle, the fringe alternately light and dark brown; secondaries pale brownish-white, crossed about the middle by a very indistinct line, the fringe greenish-brown; the underside pale greyish-brown, the primaries with the costal margin and the apex yellow, the secondaries

crossed by a dark brown line and with a yellow spot at the end of the cell: head, thorax, and tegulae yellowish-brown, the antennae, abdomen, and legs brown.—*Female*. Very similar to the male. Expanse, ♂ 1, ♀  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Coatepec (*coll. Schaus*); GUATEMALA, Totonicapam 8500 to 10,500 feet (*Champion*).

The Mexican specimen is in very poor condition, but I believe it belongs to the same species as those from Guatemala. We figure a female from Totonicapam and a beautiful variety of the male from the same locality.

7. *Psaliodes damophila*, sp. n. (Tab. LVII. fig. 15, ♂.)

*Male*. Primaries brown, crossed beyond the middle from the costal to the inner margin by a waved white band, followed by a reddish-fawn-coloured band, the fringe alternately brown and grey; secondaries greyish-white, the marginal line brown, the fringe grey; the underside of the primaries greyish-brown, with the costal margin yellow, that of the secondaries grey, thickly irrorated with dark brown scales: head, antennae, thorax, and abdomen yellowish-brown. Expanse 1 inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

One specimen.

8. *Psaliodes potina*, sp. n. (Tab. LVII. fig. 16.)

Primaries brownish-yellow, with the base, a wide waved band crossing about the middle, and the outer margin near the apex and at the anal angle dark brown, the brown band edged with a white line on either side, the fringe alternately brown and yellow; secondaries pale reddish-brown, darker round the outer margin from the apex to the anal angle, the fringe yellow; the underside of the primaries reddish-brown, marked as above, that of the secondaries yellow, thickly irrorated with dark brown scales, and with a small dot at the end of the cell and a zigzag line crossing the wing below the middle dark brown: head, antennae, thorax, and abdomen yellowish-brown. Expanse 1 inch.

*Hab.* MEXICO, Coatepec (*coll. Schaus*).

Mr. Schaus informs me that this species is common at Coatepec. I have only seen one specimen of it.

9. *Psaliodes cyra*, sp. n. (Tab. LVII. fig. 17, ♂.)

*Male*. Primaries grey, crossed near the base by two zigzag black lines and beyond the middle by a wide fawn-coloured band, the latter edged on either side with a dentated black line, the fringe alternately black and grey; secondaries greyish-white, crossed below the middle by a very faint waved line; the underside greyish white: head, antennae, thorax, and abdomen greyish-fawn-colour. Expanse 1 inch.

*Hab.* MEXICO, Coatepec (*coll. Schaus*).

One specimen.

10. *Psaliodes detractata*.

*Psaliodes detractata*, Walk. Cat. xxv. p. 1429<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Coatepec (*coll. Schaus*); GUATEMALA, Totonicapam 8500 to 10,500 feet (*Champion*).—VENEZUELA<sup>1</sup>.

Varies in colour and in the distinctness of the markings. The females are generally paler than the males.



11. **Psaliodes cynthia**, sp. n. (Tab. LVII. fig. 18.)

Primaries pale brown, crossed near the base and from the costal margin near the apex to the outer margin by very fine silvery-white lines, the fringe alternately brown and grey; secondaries uniformly pale greyish-brown; the underside pale brownish-grey, the costal margin of the primaries slightly tinged with yellow: head, antennæ, thorax, and abdomen pale greyish-brown. Expanse 1 inch.

*Hab.* GUATEMALA, San Gerónimo (*Champion*); COSTA RICA, Rio Sucio (*Rogers*).

We figure the specimen from San Gerónimo; those from Costa Rica are in very poor condition.

12. **Psaliodes porcia**, sp. n. (Tab. LVII. fig. 19.)

Primaries greyish-white, with the base and a wide band crossing about the middle from the costal to the inner margin reddish-brown, the median band edged on the inner side with a white line and on the outer side with two waved white lines, a reddish-brown spot on the outer margin just below the apex, the marginal line dark brown, the fringe greyish; secondaries greyish-white; the underside grey, slightly irrorated with brown scales: head, antennæ, thorax, and legs pale brown. Expanse 1 inch.

*Hab.* GUATEMALA, Quiché Mountains 9000 feet (*Champion*).

One specimen.

13. **Psaliodes ocreata**.

*Psaliodes ocreata*, Snell. Tijdschr. voor Ent. xvii. p. 100, t. 7. fig. 6<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—? COLOMBIA <sup>1</sup>.

One specimen in Dr. Staudinger's collection, very similar to Snellen's figure.

14. **Psaliodes cunina**, sp. n. (Tab. LVII. fig. 20.)

Primaries and secondaries white; the primaries with the costal margin, apex, and part of the wing above the anal angle pale brown; the secondaries crossed from the costal to the inner margin by three fine brown lines—the first close to the base, the second about the middle, the third submarginal; the fringe of both wings alternately white and brown; the underside very pale brown, with the lines indistinct: head, antennæ, thorax, abdomen, and legs pale brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* GUATEMALA, Totonicapam 8500 feet (*Champion*).

One specimen, probably a female. This species is very distinct from any other known to me.

15. **Psaliodes cronia**, sp. n. (Tab. LVII. fig. 21.)

Primaries reddish-fawn-colour, the secondaries paler; the primaries crossed from the costal to the inner margin by three brown bands—the first narrow and close to the base, the second wide and about the middle, the third submarginal and curved to the shape of the wing; the fringe of both wings reddish-fawn-colour; the underside paler than above, without the bands on the primaries: head, antennæ, thorax, abdomen, and legs dark reddish-fawn-colour. Expanse  $\frac{3}{4}$  inch.

*Hab.* COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).

One specimen.

16. **Psaliodes posides**, sp. n. (Tab. LVII. fig. 22, ♂.)

*Male*. Primaries and secondaries cream-colour; the primaries thickly irrorated with brown scales, and with a wide brown band crossing about the middle from the costal to the inner margin, beyond which the wing is clouded with brown, the fringe alternately brown and cream-colour; the secondaries slightly irrorated with brown scales: head, antennæ, thorax, and abdomen pale brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* GUATEMALA, Cubilguitz in Vera Paz (*Champion*).

Two specimens. This species is allied to *P. detractata*, Walk., from which it may be distinguished by its smaller size and the very different markings on the primaries.

17. **Psaliodes pronax**, sp. n. (Tab. LVII. fig. 23, ♂.)

*Male*. Primaries pale olive-brown, crossed from the costal to the inner margin by five dark brown lines—the first three towards the base, the fourth and fifth beyond the middle,—the marginal line spotted with brown, the fringe olive-brown; secondaries greyish-white; the underside brownish-white: head, antennæ, thorax, abdomen, and legs dark brown. Expanse 1 inch.

*Hab.* GUATEMALA, Totonicapam 8500 to 10,500 feet (*Champion*).

Two specimens, both males.

18. **Psaliodes cromna**, sp. n. (Tab. LVII. figg. 24, ♂; 25, ♀.)

*Male*. Primaries pale greenish-yellow, crossed towards the base from the costal to the inner margin by a curved rather wide dark brown band, and with two small V-shaped marks on the costal margin and a large triangular mark close to the apex dark brown, a few fine brown lines close to the anal angle, the marginal line dark brown, the fringe alternately greenish-yellow and brown; secondaries pale greyish-brown, pinkish round the outer margin, the fringe alternately brown and grey; the underside greyish-brown, the primaries with dark brown markings on the costal margin as above, but less distinct, the secondaries thickly irrorated with minute brown scales: head, thorax, and abdomen greenish-yellow, the antennæ and palpi dark brown, the legs pale brown.—*Female*. Very similar to the male, but with the brown markings rather larger, and with a pinkish band crossing the primaries beyond the brown band. Expanse, ♂ ♀,  $1\frac{3}{10}$  inch.

*Hab.* GUATEMALA, Totonicapam 8500 to 10,500 feet (*Champion*).

We have only received a pair of this very distinct species.

19. **Psaliodes polyxena**, sp. n. (Tab. LVII. fig. 26, ♂.)

*Male*. Primaries brownish-green, crossed by broken brown lines, which become wider towards the base, a rather large spot close to the apex and a row of small marginal spots dark brown, the fringe dark brown; secondaries slate-colour; the underside of both wings slate-colour: head and thorax brownish-green, the antennæ and palpi brown, the abdomen slate-colour.—*Female*. Very similar to the male, but rather darker in colour. Expanse, ♂ 1, ♀  $1\frac{3}{10}$  inch.

*Hab.* MEXICO, Jalapa (*coll. Schaus*), Amula in Guerrero 6000 feet (*H. H. Smith*); COSTA RICA, Rio Sucio, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

The Jalapa specimen is in bad condition, but I believe it belongs to this species. We figure a male from Amula.

20. **Psaliodes cormasa**, sp. n. (Tab. LVII. fig. 27, ♂.)

*Male*. Primaries greenish-grey, crossed from the costal to the inner margin by four dark brown bands—the first and third in the form of narrow lines, the second and fourth wide, the fourth broken in the middle,—



the marginal line dark brown, the fringe greenish-grey; secondaries slate-colour; the underside greyish-brown: head, thorax, and abdomen greenish-grey, the antennæ, palpi, and legs brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Coatepec (*coll. Schaus*).

One specimen. Allied to *P. pronax* from Guatemala.

### BAGODARES, gen. nov.

Antennæ pectinated in the male, simple in the female; thorax and abdomen slender; primaries short, rather broad, with the costal and outer margins straight and the inner margin slightly curved; secondaries rather long, very much rounded from the apex to the anal angle, the inner margin straight; hind tibiæ with long spurs.

Type *Bagodares prosa*, Druce.

#### 1. *Bagodares prosa*, sp. n. (Tab. LVII. figg. 28, ♂; 29, ♀.)

*Male.* Primaries and secondaries pale brownish-fawn-colour; the primaries darker along the costal margin and crossed from the apex to the inner margin by three yellowish-brown lines, a fine zigzag submarginal white line extending from the apex to the anal angle, the marginal line black, the outer margin thickly irrorated with white scales, the fringe dark brown; the secondaries crossed from the costal to the inner margin by two yellowish-brown lines—the first close to the base, the second below the middle,—the outer margin from the apex to the anal angle thickly irrorated with white scales; the underside pale greyish-brown, with a yellowish-brown spot close to the apex of the primaries: head, thorax, and abdomen pale brown, the antennæ dark brown.—*Female.* Similar to the male, but darker in colour, and without the white margins to the wings. Expanse, ♂ 1, ♀  $1\frac{1}{10}$  inch.

*Hab.* GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

One male and three females.

#### 2. *Bagodares* (?) *sternularia*.

*Larentia sternularia*, Herr.-Schäff. Samml. aussereur. Schmett. p. 66<sup>1</sup>.

*Cidaria sternularia*, Herr.-Schäff. loc. cit. p. 81, fig. 316<sup>2</sup>; Walk. Cat. xxvi. p. 1731<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—PERU; BRAZIL<sup>1 3</sup>.

The seven specimens before me are all females.

### DINEURODES.

*Dineurodes*, Guenée, Sp. gén. des Lép. x. p. 478 (1857); Walker, Cat. xxv. p. 1425.

Two species were placed by Guenée in this genus, which is confined to tropical America.

Two new species from Central America are somewhat doubtfully referred to it.

#### 1. *Dineurodes malachitaria*.

*Oligopleura malachitaria*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 65, 82, t. 63. ff. 357, 358<sup>1</sup>.

*Dineurodes malachitaria*, Guen. Sp. gén. des Lép. x. p. 479<sup>2</sup>; Walk. Cat. xxv. p. 1426<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*Höge*), Cordova (*Rümeli*), Atoyac in Vera Cruz (*H. H. Smith*),

Paso de San Juan (*coll. Schaus*); HONDURAS (*Wittkugel, in mus. Staudinger*); GUATEMALA, Teleman in Vera Paz, Volcan de Atitlan 2500 to 3500 feet (*Champion*).—BRAZIL <sup>1 2 3</sup>.

This species appears to be rare. The female is variable.

2. *Dineurodes* (?) *populonia*, sp. n. (Tab. LVIII. fig. 1, ♀.)

*Female*. Primaries fawn-colour, dark brown from the base to about the middle of the cell, beyond which the wing is crossed from the costal to the inner margin by very faint narrow waved brown lines, two small dark brown marks on the costal margin close to the apex, a round blackish spot at the anal angle, and on the outer margin near the apex a row of five very minute white dots; secondaries slate-colour, slightly shaded with reddish-brown on the outer margin; the underside pale greyish-brown, irrorated with darker brown scales, the costal margin of the primaries broadly bordered with yellowish-brown: head, thorax, and antennæ dark brown, the abdomen and legs pale brown. Expanse  $1\frac{1}{4}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

One specimen.

*D. populonia*, as will be seen from our figure, differs from *Dineurodes* in the shape of the secondaries; I doubtfully refer it to this genus.

3. *Dineurodes* (?) *cynossema*, sp. n. (Tab. LVIII. fig. 2, ♂.)

*Male*. Primaries and secondaries pale greyish-fawn-colour, with a pinkish tinge, which is more distinct on the outer half of the wings, the primaries with two small white streaks on the costal margin close to the base, the fringe dark greyish-brown; the underside of the primaries pink, with the costal margin and the apex pale brown, irrorated with darker brown scales, that of the secondaries pale brown, slightly irrorated with darker scales: head, antennæ, thorax, and legs dark brown, the abdomen fawn-colour. Expanse  $1\frac{4}{10}$  inch.

*Hab.* GUATEMALA, Totonicapam 8500 to 10,500 feet (*Champion*).

Two males of this species have been received.

Subfam. *EUBOLIINÆ*.

EUBOLIA.

*Eubolia*, Duponchel, Hist. Nat. Lép. Fr. iv. 2, p. 109 (1829); Guenée, Sp. gén. des Lép. x. p. 484; Walker, Cat. xxv. p. 1432.

Twenty-three species were included in this genus by Walker from all parts of the world. Two from the northern part of our region are provisionally referred to it.

1. *Eubolia danae*, sp. n. (Tab. LVIII. fig. 3, ♂.)

*Male*. Primaries and secondaries brownish-grey, the primaries crossed about the middle from the costal to the inner margin by several very indistinct fine waved darker grey lines, the secondaries with some indistinct greyish streaks partly crossing from the inner margin above the apex: head, antennæ, thorax, and abdomen dark grey.—*Female*. Very similar to the male, but rather more distinctly marked. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Durango city (*Becker*), Amula in Guerrero 6000 feet (*H. H. Smith*); GUATEMALA (*Conradt, in mus. Staudinger*).



One male and two females. We figure the Guatemalan male in Dr. Staudinger's collection.

2. **Eubolia cyda**, sp. n. (Tab. LVIII. fig. 4.)

*Male*. Primaries and secondaries pale greyish-brown, very thickly irrorated with darker brown scales; the primaries crossed beyond the middle from the costal to the inner margin by a wide dark brown band, which is edged on the inner side with a wavy black line, the marginal line and fringe dark brown; the secondaries crossed below the middle by a fine brown line; the underside much as above, but with all the markings very indistinct: head, antennæ, and thorax dark brown, the abdomen and legs pale greyish-brown. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Northern Sonora (*Morrison*), Durango city (*Becker*).

Varies in colour and in the width of the brown band crossing the primaries. We figure a rather dark specimen from Durango city.

Subfam. *SIONINÆ*.

STAMNODES.

*Stamnodes*, Guenée, Sp. gén. des Lép. x. p. 515 (1857); Walker, Cat. xxv. p. 1458.

The two species known of this genus are both from high altitudes—one from the Altai, the other from the Himalaya Mountains. A third species is now added from the Los Altos region of Guatemala, specimens of which were captured by Mr. Champion at an elevation of from 8500 to 10,500 feet.

1. **Stamnodes proana**, sp. n. (Tab. LVIII. figg. 5, 6.)

Primaries and secondaries chrome-yellow; the primaries with some short greyish bands on the costal margin, and the apex and outer margin broadly bordered with brown, the fringe brown; the secondaries with the fringe alternately brown and yellow; the underside of the primaries very much as above, but with the costal margin, apex, and outer margin thickly irrorated with bright yellow scales, a whitish band separating the dark brown apical portion from the yellow basal part of the wing, and a small white dot on the costal margin near the apex; the underside of the secondaries brown, with the costal margin and apex yellow, thickly irrorated with dark brown scales, a small white dot about the middle of the costal margin: head, thorax, and abdomen yellowish-brown, the antennæ and legs darker brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* GUATEMALA, Totonicapam 8500 to 10,500 feet (*Champion*).

A fine, distinct species allied to *Cidaria* (*Stamnodes*) *pamphilata*, Feld. & Rogenh., from the Himalaya. I am unable to detect any external difference between the two sexes.

MARMOPTERYX.

*Marmopteryx*, Packard, in Report of the U.S. Geol. Surv. of the Territ. x. p. 259, t. 3. figg. 3, 3 a (neurulation) (1876).

Packard includes three species in this genus; two others occur in Western Mexico.

1. **Marmopteryx patamon**, sp. n. (Tab. LVIII. figg. 7, 8.)

Primaries and secondaries creamy-white; the primaries with the costal margin, a wide band at the end of the cell extending to the costal margin, the apex, and outer margin dark brown, the fringe greyish-brown; the secondaries with the marginal line and the apex shaded with pale brown, the fringe grey; the underside of the primaries with the costal margin and apex irrorated with reddish-brown scales, that of the secondaries white, very thickly striated with reddish-brown, leaving a wide white band across the middle of the wing, the fringe white: head, thorax, abdomen, and legs greyish-white, the antennæ brown. Expanse  $1\frac{3}{10}$  inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

Three specimens, one considerably paler than the others.

2. **Marmopteryx** — ?

*Hab.* MEXICO, State of Jalisco (*Richardson*).

One specimen, not in sufficiently good condition for determination.

Subfam. *HEDYLINÆ*.

PELLINODES.

*Phellinodes*, Guenée, Sp. gén. des Léop. x. p. 523 (1857); Walker, Cat. xxv. p. 1465.

This genus is peculiar to Tropical America. Some of its species have a very extended range.

1. **Phellinodes satellitiata**.

*Phellinodes satellitiata*, Guen. Sp. gén. des Léop. x. p. 523, Phalén. t. 21. fig. 8<sup>1</sup>; Walk. Cat. xxv. p. 1465<sup>2</sup>.

*Hab.* GUATEMALA, San Gerónimo, Zapote (*Champion*).—BRAZIL<sup>1 2</sup>.

Guenée's figure is probably taken from a female, though he states it to be a male<sup>1</sup>. The male is without the white spots on the primaries; the Guatemalan females agree perfectly with the above-quoted figure.

2. **Phellinodes rubedinaria**. (Tab. LVIII. fig. 9.)

*Hedyle rubedinaria*, Walk. Cat. xxv. p. 1464<sup>1</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); HONDURAS (*Dyson*<sup>1</sup>).

One specimen from Tabasco, not differing from Walker's types in the National collection.

3. **Phellinodes ustrinaria**.

*Macrosoma ustrinaria*, Herr.-Schäff. Samml. aussereur. Schmett. p. 62<sup>1</sup>.

*Acidalia* (?) *ustrinaria*, Herr.-Schäff. loc. cit. p. 80, fig. 196<sup>2</sup>.

*Macrophila* (?) *ustrinaria*, Walk. Cat. xxv. p. 1466<sup>3</sup>.



*Hab.* PANAMA, Bugaba 1000 feet (*Champion*).—GUIANA, Surinam<sup>1 3</sup>.

One specimen.

#### MACROPHILA.

*Macrophila*, Walker, Cat. xxv. p. 1465 (1862).

Walker founded this genus upon *Macrosoma tipulata*, Hübn., an insect occurring in the southern part of our region.

##### 1. *Macrophila tipulata*.

*Macrosoma tipulata*, Hübn. Zutr. Samml. exot. Schmett. i. p. 10, figg. 21, 22<sup>1</sup>; Verz. bek. Schmett. p. 337<sup>2</sup>.

*Macrophila tipulata*, Walk. Cat. xxv. p. 1466<sup>3</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe*; *Arcé*, in *mus. D.*), Bugaba 800 to 1500 feet (*Champion*).—BRAZIL<sup>1</sup>; AMAZONS, Pará<sup>3</sup>, Ega<sup>3</sup>.

This species is fairly common at Bugaba. We have a large series of specimens hardly showing any variation.

#### HEDYLE.

*Hedyle*, Guenée, Sp. gén. des Lép. x. p. 521 (1857); Walker, Cat. xxv. p. 1463 (pars).

The type of this genus, *H. heliconaria*, Guen., is very widely distributed in Tropical America, extending northwards to Mexico. *H. rubedinaria*, Walk., as already noted, is a *Phellinodes*.

##### 1. *Hedyle heliconaria*.

*Hedyle heliconaria*, Guen. Sp. gén. des Lép. x. p. 522<sup>1</sup>; Walk. Cat. xxv. p. 1463<sup>2</sup>.

*Hab.* MEXICO, Coatepec (*coll. Schaus*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet, Zapote, Telemán in Vera Paz (*Champion*); HONDURAS (*Dyson*<sup>2</sup>); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Arcé*, in *mus. D.*; *Ribbe*, *Trötsch*, in *mus. Staudinger*), Bugaba, Volcan de Chiriqui (*Champion*), Panama city (*J. J. Walker*).—COLOMBIA; VENEZUELA<sup>2</sup>; ECUADOR; GUIANA, Cayenne<sup>1</sup>; AMAZONS, Ega<sup>2</sup>.

Varies in size and colour, and also in the extent of the white V-shaped marking on the primaries—in some examples this is quite large, in others very small, and in a specimen in Dr. Staudinger's collection it is entirely wanting.

#### Subfam. ERATEININÆ.

#### ERATEINA.

*Erateina*, Doubleday, Trans. Ent. Soc. Lond. v. p. 111 (1849); Guenée, Sp. gén. des Lép. x. p. 525; Walker, Cat. xxv. p. 1466.

This Tropical-American genus is represented in our region by six species, all of which appear to be rare.

### 1. *Erateina staudingeri*.

*Erateina staudingeri*, Snell. Tijdschr. voor Ent. xxi. p. 150, t. 8. figg. 14-16<sup>1</sup>.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Arcé, in mus. D.; Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—SOUTH AMERICA, ? Peru<sup>1</sup>.

I have not seen a specimen of this species from south of the State of Panama.

### 2. *Erateina ianthe*.

*Erateina ianthe*, Doubl. Trans. Ent. Soc. Lond. v. p. 114, t. 12. fig. 3<sup>1</sup>; Walk. Cat. xxv. p. 1468<sup>2</sup>.

*Erateina janthata*, Guen. Sp. gén. des Lép. x. p. 527<sup>3</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—VENEZUELA<sup>1 2 3</sup>.

One specimen, agreeing perfectly with others from Merida, Venezuela, in my own collection.

### 3. *Erateina rogersi*, sp. n. (Tab. LVIII. figg. 10, 11.)

Primaries and secondaries black; the primaries with two fine white streaks starting from the base, a blue line along the inner margin extending from the base almost to the apex, a wide hyaline band crossing from the costal margin almost to the anal angle, and a small hyaline spot close to the apex, the fringe black; the secondaries with a wide hyaline streak extending from the costal margin near the base almost to the anal angle, the fringe alternately black and white; the underside of the primaries lake-red, with a second band crossing the wing near the apex, that of the secondaries lake-red, orange-red at the anal angle and partly round the outer margin: head, antennæ, and thorax black; abdomen black above, each segment edged with a very fine white line, beneath greyish; legs greyish. Expanse 1 $\frac{3}{4}$  inch.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 3000 feet (*Champion*).—PERU.

We figure a specimen from the Volcan de Chiriqui.

### 4. *Erateina pohliata*.

*Erateina pohliata*, Feld. & Rogenh. Reise der Nov., Lep. t. 133. figg. 22, 22 a<sup>1</sup>.

*Hab.* GUATEMALA, San Gerónimo, Purula (*Champion*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA, Bogota<sup>1</sup>; BOLIVIA.

I have only seen four specimens of this species from our region.

### 5. *Erateina cyris*, sp. n. (Tab. LVIII. figg. 12, 13.)

Primaries and secondaries deep blue-black, blue in certain lights; the primaries crossed beyond the middle by a wide hyaline band, the fringe black; the secondaries with the central portion hyaline, the veins and fringe black: the underside of the primaries very much as above, but shaded with purple along the costal margin and apical portion, a silvery-white streak extending along the inner margin from the base almost to the anal angle,—that of the secondaries reddish-purple, orange at the base, with a marginal bluish-white line extending from the apex to the anal angle: head, antennæ, thorax, and legs black; abdomen dark glossy-blue, banded with white lines. Expanse 1 $\frac{3}{4}$  inch.

*Hab.* GUATEMALA, Zapote (*Champion*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

This very distinct species is allied to *E. necysia*, Druce, from Colombia. We figure the specimen from Chiriqui in Dr. Staudinger's collection.



### 6. *Erateina specularia*.

*Erateina specularia*, Walk. Characters of undescribed Lep. Het. p. 62 (1869)<sup>1</sup>.

*Erateina thyridiata*, Feld. & Rogenh. Reise der Nov., Lep. t. 133. figg. 23, 23 a<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*Höge*), Misantla (*F. D. G.*); GUATEMALA (*Salvin*<sup>2</sup>), Cahabon in Vera Paz (*Champion*); COSTA RICA, Rio Sucio, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Trötsch*, in *mus. Staudinger*; *Ribbe*).

This species is fairly common within our limits, but I have not seen a specimen of it from south of the State of Panama. The locality of Walker's type is not stated<sup>1</sup>.

## TROCHIODES.

*Trochiodes*, Guenée, Sp. gén. des Léop. x. p. 530 (1857).

*Odezia*, Herrich-Schäffer, Samml. aussereur. Schmett. p. 81.

Guenée founded this genus upon an insect supposed to have come from Brazil.

### 1. *Trochiodes hæmataria*.

*Erateina hæmataria*, Herr.-Schäff. Samml. aussereur. Schmett. p. 65, figg. 320, 321<sup>1</sup>; Walk. Cat. xxv. p. 1471<sup>2</sup>.

*Odezia hæmataria*, Herr.-Schäff. loc. cit. p. 81<sup>3</sup>.

*Hab.* MEXICO<sup>1 2</sup>; GUATEMALA, Totonicapam 8500 to 10,500 feet, Quiché Mountains 7000 to 9000 feet (*Champion*).

Our specimens are not nearly so red on the underside of the secondaries as Herrich-Schäffer's figure; they vary in colour, some examples being much paler than others.

### 2. *Trochiodes polyxena*, sp. n. (Tab. LVIII. figg. 14, 15.)

*Male.* Primaries and secondaries black, each with a rather large central white spot—that on the primaries oval at the end of the cell and extending downwards, that on the secondaries deeply dentated on the outer edge,—the fringe of the primaries black, of the secondaries white from the apex to the middle of the outer margin, then black to the anal angle; the underside as above, but with the primaries crossed near the apex from the costal to the outer margin by a rather wide white band, and the secondaries with all the veins white: head, antennæ, thorax, and abdomen black, the abdomen banded with fine white lines, the collar and underside of the thorax orange-yellow. Expanse 1½ inch.

*Hab.* GUATEMALA, Calderas 7000 feet (*Champion*).

Allied to *T. hæmataria*, Herr.-Schäff. The three specimens received do not show any variation.

### 3. *Trochiodes lithosiata*.

*Trochiodes lithosiata*, Guen. Sp. gén. des Léop. x. p. 530, Phalén. t. 22. fig. 2<sup>1</sup>; Walk. Cat. xxv. p. 1472<sup>2</sup>.

*Hab.* MEXICO, Omilteme in Guerrero 8000 feet (*H. H. Smith*).—? BRAZIL<sup>1</sup>.

The three specimens captured by Mr. Herbert Smith agree fairly well with Guenée's figure, which is not a very good one.

4. **Trochiodes cydonia**, sp. n. (Tab. LVIII. figg. 16, 17.)

Primaries deep black, bright yellow from the base nearly to the middle, and with an indistinct narrow yellow line near the apex; secondaries bright yellow, broadly bordered with black; the fringe black; the underside of the primaries much as above, but with a pale fawn-coloured line crossing near the apex, that of the secondaries pale fawn-colour, streaked with dark red, the apex and part of the outer margin broadly bordered with black: head and antennæ black, the thorax, abdomen, and legs yellow, the abdomen banded with black. Expanse  $1\frac{3}{10}$  inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

One specimen.

5. **Trochiodes crusa**, sp. n. (Tab. LVIII. fig. 18.)

*Male.* Primaries and secondaries deep black, with the fringe also black, the primaries with a large oval orange-yellow spot extending from near the base to the end of the cell; the underside much as above, except that the primaries have a small yellow spot on the costal margin towards the apex, the secondaries have the costal margin broadly bordered with yellow, and the fringe is greyish: head, antennæ, abdomen, and legs deep black; thorax deep black, the collar and front yellow. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Amecameca in Morelos (*F. D. G.*).

Mr. Godman captured two males of this very distinct species in April 1888. In one of the specimens there is also a small spot on the upperside of the primaries near the apex.

6. **Trochiodes (?) prusa**, sp. n. (Tab. LVIII. fig. 19.)

*Female.* Primaries and secondaries deep black, the primaries with an oblique elongate-oval white spot about the middle, the secondaries with the middle portion white, the fringe black; the underside as above, except that the base of both wings and the inner margin of the secondaries are bluish-white: head, antennæ, and thorax black; abdomen black above, greyish-white beneath; legs greyish-white. Expanse  $1\frac{1}{4}$  inch.

*Hab.* GUATEMALA, Purula (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).

Four specimens. We have only received female specimens of this and of the following three species, and I include all of them with some doubt in *Trochiodes*.

7. **Trochiodes (?) proana**, sp. n. (Tab. LVIII. fig. 20.)

*Female.* Primaries dark brownish-black, with a wide white streak extending from the base to beyond the cell, and a curved yellow submarginal line crossing from the costal margin to the anal angle, the veins partly yellow; secondaries white, broadly bordered with black; the fringe greyish; the underside as above, except that the band crossing the primaries is white instead of yellow: head, thorax, antennæ, abdomen, and legs brownish-black. Expanse  $1\frac{1}{2}$  inch.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

Three females, all in poor condition.

8. **Trochiodes (?) promenea**, sp. n. (Tab. LVIII. fig. 21.)

*Female.* Primaries dull brown; secondaries white, bordered with black from the apex to the anal angle, the inner margin and the base dusky; the underside as above, but with a white band crossing the primaries: head, antennæ, thorax, and abdomen brownish-black. Expanse  $1\frac{1}{4}$  inch.

*Hab.* COSTA RICA, Rio Sucio (*Rogers*).

Two worn specimens.



9. **Trochiodes(?) crossa**, sp. n. (Tab. LVIII. fig. 22.)

*Female*. Primaries black, crossed beyond the middle by an oblique semihyaline wide white band, which does not reach either margin, and with a semihyaline white spot near the apex; secondaries semihyaline-white, broadly bordered with black, the veins all black; the underside whiter than above: head, antennæ, thorax, and legs black (abdomen wanting). Expanse  $1\frac{3}{10}$  inch.

*Hab.* NICARAGUA, Chontales (*Belt*).

One specimen. This species is quite unlike any other known to me.

Subfam. *EMPLOCIINÆ*.

## EMPLOCIA.

*Emplocia*, Herrich-Schäffer, Samml. aussereur. Sehmett. p. 81 (1850-58); Guenée, Sp. gén. des Léop. x. p. 531; Walker, Cat. xxv. p. 1472.

This genus is represented in our region by five species, four of which are described as new.

1. **Emplocia primulina**.

*Emplocia primulina*, Butl. & Druce, Cist. Ent. i. p. 118<sup>1</sup>; Butl. Lep. Exot. p. 178, t. 61. fig. 3<sup>1</sup>.

*Hab.* GUATEMALA, Purula, San Gerónimo, Dueñas, Capetillo, Zapote, Cerro Zunil 4000 to 5000 feet (*Champion*), Volcan de Santa Maria, Pacific Slope (*Richardson*); COSTA RICA, Cartago <sup>1 2</sup> (*Van Patten, in mus. D.*).

This species is well figured by Mr. Butler<sup>2</sup>. We have a very large series of it from Guatemala.

2. **Emplocia potentia**, sp. n. (Tab. LVIII. fig. 23.)

*Male*. Primaries black, with an elongated yellow spot extending from the base to about the middle; secondaries yellow, broadly bordered with black on the costal margin, apex, and outer margin; the fringe black; the underside resembling that of *E. primulina*, Butl. & Druce, but blacker: head, antennæ, and thorax black; abdomen black, banded with yellow; collar and tegulæ yellow. Expanse  $1\frac{1}{10}$  inch.

*Hab.* COSTA RICA, Rio Sucio (*Rogers*).

Allied to *E. primulina*, but smaller and with less yellow on the wings, and the primaries without the yellow apical band. Only two specimens have been received.

3. **Emplocia cynaxa**, sp. n. (Tab. LVIII. figg. 24, 25.)

Primaries and secondaries bright yellow; the primaries with the costal margin from the base to the middle narrowly edged with black, from the middle to the apex broadly bordered with black, the inner margin from the base to the anal angle and the outer margin also broadly bordered with black, the fringe black; the secondaries with the costal margin, apex, part of the inner margin, and the anal angle broadly bordered with black; the underside of the primaries paler than above, that of the secondaries cream-colour, with the base carmine-red: head, antennæ, thorax, abdomen, and legs black, the collar carmine. Expanse  $1\frac{3}{10}$  inch.

*Hab.* GUATEMALA, Quiché Mountains 9000 feet (*Champion*).

One specimen. This species somewhat resembles *Josia ligata* from the same region.

4. *Emplocia prumnides*, sp. n. (Tab. LVIII. figg. 26, 27.)

*Male*. Primaries black, from the base to beyond the middle orange-yellow, the fringe black; secondaries orange-yellow, the apex, outer margin, and anal angle broadly bordered with black, and with several black spots along the costal and inner margins; the underside of the primaries as above, but with a line partly crossing from the costal margin to near the outer margin and a marginal row of short lines white, that of the secondaries with a marginal row of elongated black spots: head, antennæ, thorax, and legs black, the collar and tegulæ orange; abdomen black, banded with orange. Expanse  $1\frac{3}{10}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

One specimen, quite unlike any other species known to me.

5. *Emplocia tortricina*, sp. n. (Tab. LVIII. figg. 28, 29, ♂; 30, ♀.)

*Male*. Primaries and secondaries orange-red; the primaries bordered with black on the costal margin near the base, the apex and outer margin broadly bordered with black, the inner margin edged with black from the base to the anal angle, a narrow band near the apex and two or three streaks on the outer margin close to the anal angle reddish-orange; the secondaries with three spots about the middle, and a sub-marginal and a marginal row of elongated spots all black; the fringe alternately black and orange; the underside as above, but with the costa, apex, and outer margin of the primaries streaked with white: head, antennæ, and thorax black; tegulæ black, edged with yellow; abdomen black, banded with yellowish-white; legs black and white.—*Female*. Similar to the male, but with the black margin of the primaries broken up into rows of spots. Expanse, ♂  $1\frac{1}{4}$ , ♀  $1\frac{1}{2}$  inch.

*Hab.* COSTA RICA, Rio Sucio (*Rogers*).

We have a large series of this species. The female somewhat resembles *Aterica leopardina*, Butl., from the same region.

## Fam. SICULIDÆ.

This family is of small extent. It has recently been monographed by Dr. A. Pagenstecher in the 'Iris,' v. pp. 5–131 (1892); he divides the Siculidæ into three subfamilies and the genus *Siculodes* into ten groups; 170 species are enumerated for the entire family, no less than 113 of which belong to *Siculodes*. The Siculidæ are chiefly confined to the warmer portions of the globe, being about equally numerous in species in the Neotropical and Oriental regions. Of the six genera referred to it by Dr. Pagenstecher, four are common to the Old and New World; one of these, *Dysodia*, Clemens (= *Varnia*, Walk.; = *Pachythyris*, Feld., Guen.), has been already dealt with by me under the Family Noctuidæ, *antea*, i. pp. 324–326. *Dysodia* would, no doubt, be better placed in the Siculidæ.

## RHODONEURA.

*Rhodoneura*, Guenée, Sp. Gén. des Lép., Siculides, t. 1. fig. 8 (1857); Ann. Soc. Ent. Fr. 1877, p. 287; Walker, Cat. xxxii. p. 523; Moore, Lep. Ceyl. iii. p. 267; Pagenstecher, Iris, v. p. 48. *Oscia*, Walker, Journ. Linn. Soc., Zool. vii. p. 73 (1864).

Dr. Pagenstecher includes nineteen species in this genus from various localities in the Oriental region. It is also represented within our limits.



Mr. Hampson, 'Fauna of British India, Moths,' vol. i. p. 355, includes this genus in his family Thyrididæ, placing that family after the Drepanulidæ.

1. **Rhodoneura pulchelloides.** (Tab. LIX. fig. 1.)

*Siculodes pulchelloides*, Pagenst. Iris, v. p. 64, t. 1. fig. 4<sup>1</sup>.

*Hab.* PANAMA, Volcan de Chiriqui 3000 feet (*Champion*). — COLOMBIA, Bogota<sup>1</sup>; AMAZONS<sup>1</sup>; PERU<sup>1</sup>; S.E. BRAZIL, Santa Catharina<sup>1</sup>.

The single specimen received from the Volcan de Chiriqui agrees with Dr. Pagenstecher's figure, except that it has the wings much more heavily marked, but I believe it belongs to the same species.

2. **Rhodoneura sterna.**

*Siculodes sterna*, Feld. & Rogenh. Reise der Nov., Lep. t. 134. fig. 13<sup>1</sup>; Guen. Ann. Soc. Ent. Fr. 1877, p. 291<sup>2</sup>; Pagenst. Iris, v. p. 63<sup>3</sup>.

*Hab.* PANAMA, Volcan de Chiriqui 4000 to 6000 feet (*Champion*). — COLOMBIA, Bogota<sup>1 2 3</sup>.

The specimens before me are very similar to Felder and Rogenhofer's figure, but they are slightly paler in colour, and have the dark markings not quite so distinct.

3. **Rhodoneura paullula.** (Tab. LIX. fig. 2.)

*Siculodes paullula*, Pagenst. Iris, v. p. 65, t. 1. fig. 20 (neurulation)<sup>1</sup>.

*Hab.* GUATEMALA, Cahabon and Panima in Vera Paz (*Champion*); PANAMA, Chiriqui<sup>1</sup> (*Ribbe*, in *mus. Staudinger*), Bugaba 800 to 1500 feet (*Champion*).

We are indebted to Dr. Staudinger for the loan of the type of this and the other species of Siculidæ described by Dr. Pagenstecher from our country. The specimens received from Guatemala are brighter in colour than those from Chiriqui, and they have the markings pinker, the female being more heavily marked than the male. A specimen from Chiriqui is figured.

4. **Rhodoneura violalis.** (Tab. LIX. fig. 3.)

*Siculodes violalis*, Pagenst. Iris, v. p. 69<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, Las Mercedes 3000 feet (*Champion*). — ECUADOR<sup>1</sup>.

Both our specimens are females, not in very good condition. They are almost identical with the type.

5. **Rhodoneura arcuata.**

*Siculodes arcuata*, Pagenst. Iris, v. p. 69<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe*<sup>1</sup>).

I have not seen a specimen of this species.

6. **Rhodoneura anastomosalis.** (Tab. LIX. fig. 6.)

*Siculodes anastomosalis*, Pagenst. Iris, v. p. 76<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*<sup>1</sup>), Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Panama city (*J. J. Walker*).

Our specimens are slightly darker than the type.

7. **Rhodoneura lævigata.** (Tab. LIX. fig. 4, var.)

*Siculodes lævigata*, Pagenst. Iris, v. p. 78<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*); PERU<sup>1</sup>; AMAZONS<sup>1</sup>.

Our specimens resemble one communicated by Dr. Staudinger, labelled *Siculodes lævigata*, Pagenst., var.

PHARAMBARA.

*Pharambara*, Walker, Cat. xxxiv. p. 1274 (1865).

*Siculodes*, Guenée, Sect. III., Pagenstecher, Iris, v. p. 128.

This genus was founded by Walker upon a single species from Mysol. A large number of species are now known, mostly from the eastern islands; one occurs in Central America.

1. **Pharambara polychloralis.** (Tab. LIX. fig. 5.)

*Siculodes polychloralis*, Pagenst. Iris, v. p. 108<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*mus. Staudinger*<sup>1</sup>), Volcan de Chiriqui 2000 to 3000 feet, Bugaba 800 to 1500 feet (*Champion*).—COLOMBIA; AMAZONS.

IZA.

*Iza*, Walker, Cat. xxxii. p. 521 (1865).

*Siculodes*, Guenée, Sect. IV., Pagenstecher, Iris, v. p. 128.

The type of this genus is *Siculodes nubecula*, Guen., from Rio Janeiro. An allied South-American form extends into the southern part of our region.

1. **Iza hedilalis.** (Tab. LIX. fig. 7.)

*Pyrallis* (?) *hedilalis*, Walk. Cat. xix. p. 895<sup>1</sup>.

*Siculodes hedilalis*, Pagenst. Iris, v. p. 115<sup>2</sup>.

*Siculodes amethysea*, Feld. & Rogenh. Reise der Nov., Lep. t. 134. fig. 6<sup>3</sup>; Guen. Ann. Soc. Ent. Fr. 1877, p. 291<sup>4</sup>.

*Siculodes apicalis*, Pagenst. Iris, v. p. 70<sup>5</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*<sup>5</sup>), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA, Bogota<sup>5</sup>; PERU<sup>5</sup>; AMAZONS<sup>3 4</sup>, Ega<sup>1 2</sup>; BRAZIL, Blumenau<sup>5</sup>.

Dr. Pagenstecher's type of *Siculodes apicalis* agrees with that of *Pyrallis hedilalis*,



Walk., in the National Museum. Felder and Rogenhofer's figure of *Siculodes amethystea* is a very poor one, but I have no doubt their insect belongs to the same species.

### AZIBA.

*Aziba*, Walker, Cat. xxxii. p. 520 (1865).

*Vadata*, Walker, loc. cit. p. 517 (part.).

*Siculodes*, Guenée, Sect. VII., Pagenstecher, Iris, v. p. 128.

In our region this genus is represented by one species.

#### 1. *Aziba macropterana*. (Tab. LIX. fig. 8.)

*Vadata macropterana*, Walk. Cat. xxxii. p. 517<sup>1</sup>.

*Siculodes macropterana*, Guen. Ann. Soc. Ent. Fr. 1877, p. 293<sup>2</sup>; Pagenst. Iris, v. p. 75<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*Schaus, M. Trujillo*); GUATEMALA, in the city (*Candèze, in mus. D.*).—BRAZIL<sup>1 2 3</sup>.

This species varies considerably in colour, some specimens being much darker than others. An example from Jalapa is figured.

### DRACONIA.

*Draconia*, Hübner, Verz. bek. Schmett. p. 197 (1816).

This genus is represented in our region by three species, two of which I place in it with considerable doubt.

The type of *Draconia*, *D. peripheta* (Cram.), is a remarkable insect, hitherto known only from the "West Indies."

#### 1. *Draconia peripheta*. (Tab. LIX. fig. 12.)

*Phalena peripheta*, Cram. Pap. Exot. ii. p. 54, t. 131. fig. G<sup>1</sup>.

*Draconia peripheta*, Hübn. Verz. bek. Schmett. p. 197<sup>2</sup>.

*Siculodes peripheta*, Pagenst. Iris, v. p. 96<sup>3</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—WEST INDIES<sup>1</sup>.

The specimen from Chiriqui in Dr. Staudinger's collection has the pale markings on the wings more suffused than is shown in Cramer's figure; but I have very little doubt that it belongs to the same species, the smaller spots on the wings being almost identical in form. It is the only example I have seen.

#### 2. *Draconia denticulata*. (Tab. LIX. fig. 10.)

*Siculodes denticulata*, Pagenst. Iris, v. p. 98, t. 1. fig. 12<sup>1</sup>.

*Hab.* NICARAGUA, Chontales (*Belt*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*<sup>1</sup>), Bugaba 800 to 1500 feet (*Champion*).—BRAZIL<sup>1</sup>.

The five specimens of this species before me show a slight variation in size and

colour, some being much paler than others and with the lighter markings more distinct. We figure an example from Bugaba.

3. *Draconia* (?) *rusina*, sp. n. (Tab. LIX. fig. 9.)

Primaries and secondaries pale fawn-colour; the primaries with a large angular whitish hyaline marking, extending from the anal angle almost to the apex, and crossed by fine fawn-coloured lines, and with several small hyaline spots just below the middle of the cell and along the inner margin; the secondaries with the base and a band crossing about the middle whitish hyaline; the hyaline markings on both wings formed of small rounded or angular spots: head, antennæ, thorax (except in front), and abdomen dark fawn-colour; the collar, the front of the thorax, and the tegulæ greyish-white. Expanse  $2\frac{1}{2}$  inches.

*Hab.* GUATEMALA, La Tinta in Vera Paz (*Champion*).

One specimen, differing greatly from the preceding species in having the costal margin of the primaries strongly arched.

Fam. PYRALIDÆ.

Subfam. *CHRYSAUGINÆ*.

*Semniidæ*, Lederer, Wien. ent. Monats. vii. p. 333 (1863).

SEMNIA.

*Semnia*, Hübn. Verz. bek. Schmett. p. 353 (1816); Walker, Cat. xix. p. 833; Lederer, Wien. ent. Monats. vii. p. 333; Ragonot, Ann. Soc. Ent. Fr. 1890, p. 479 (45).

*Acronolepia*, Westwood, Zool. Journ. v. p. 451 (1834).

The type of this Tropical-American genus is *S. auritalis*, Hübn. (= *Acronolepia quadricolor*, Westw.); four other species have been referred to it by Felder and Rogenhofer.

1. *Semnia auritalis*.

*Semnia auritalis*, Hübn. Zutr. Samml. exot. Schmett. ii. p. 28, figs. 361, 362<sup>1</sup>; Verz. bek. Schmett. p. 353<sup>2</sup>; Lederer, Wien. ent. Monats. vii. p. 334, t. 6. fig. 4<sup>3</sup>; Walk. Cat. xix. p. 834<sup>4</sup>; Ragon. Ann. Soc. Ent. Fr. 1890, p. 480 (46)<sup>5</sup>.

*Acronolepia quadricolor*, Westw. Zool. Journ. v. p. 452<sup>6</sup>.

*Acronolepia biguttalis*, Feld. & Rogenh. Reise der Novara, Lep. t. 134. fig. 18<sup>7</sup>.

*Virbia notata*, Walk. Cat. ii. p. 472<sup>8</sup>.

? *Noctua elongata*, Sepp, Pap. de Surinam, i. p. 93, t. 43<sup>9</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*Schaus*); GUATEMALA, Telemán and Panima in Vera Paz, Zapote (*Champion*); PANAMA, Bugaba 800 to 1500 feet (*Champion*), Volcan de Chiriqui (*Trötsch, in mus. Staudinger*), Panama city (*J. J. Walker*), Obispo (*Salvin, in mus. D.*).—GUIANA, Surinam<sup>9</sup>; AMAZONS<sup>7</sup>; BRAZIL<sup>3 5 6 8</sup>, Rio Janeiro<sup>1 4</sup>.

The spot at the base of the primaries varies in colour: in all the Guatemalan specimens before me it is dark yellow, almost of the same colour as the secondaries;



in those from Panama and South America it is pale yellow, in some examples almost white. Southern specimens also have the primaries of a much redder brown colour at the base.

### ANISOTHRIX.

*Anisothrix*, Ragonot, Ann. Soc. Ent. Fr. 1890, p. 478 (44).

Mons. Ragonot includes a single species in this genus: it is from Chanchamayo\*, and an insect sent us by Mr. Forrer from N.W. Mexico seems to belong to the same species.

#### 1. *Anisothrix adustalis*.

*Anisothrix adustalis*, Ragon. Ann. Soc. Ent. Fr. 1890, p. 479 (45), t. 7. fig. 5 (*perustalis*)<sup>1</sup>.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*).—PERU, Chanchamayo<sup>1</sup>.

One specimen in poor condition, very similar to Mons. Ragonot's figure.

### EPISEMNIÆ.

*Episemnia*, Ragonot, Ann. Soc. Ent. Fr. 1890, p. 481 (47).

Two species are referred to this genus by Mons. Ragonot—*E. subauritalis*, Ragon., and *E. josialis* (Feld. & Rogenh.), both from Tropical South America, one of which extends northward to Mexico; a third is now added.

#### 1. *Episemnia josialis*.

*Acronolepia josialis*, Feld. & Rogenh. Reise der Novara, Lep. t. 134. fig. 24 (♂)<sup>1</sup>.

*Hab.* MEXICO, Atoyac in Vera Cruz (*Schumann*).—AMAZONS<sup>1</sup>.

One specimen, identical with Felder and Rogenhofer's figure.

#### 2. *Episemnia ligatalis*, sp. n. (Tab. LIX. fig. 11.)

Primaries black, with a wide yellow band extending down the middle from the base to the outer margin, the fringe black; secondaries black, with a wide central yellow band, which extends from the base to the outer margin, the fringe from the apex to the anal angle black, the inner margin and anal angle yellow: the underside of both wings as above: head, collar, and sides of the abdomen bright yellow, the antennæ, thorax, abdomen above, and legs black. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*).

One specimen. This species very closely resembles *Josia ligata*, Walk.

### MAPETA.

*Mapeta*, Walker, Cat. xxvii. p. 17 (March, 1863); Ragonot, Ann. Soc. Ent. Fr. 1891, p. 646 (260).

*Homalochroa*, Lederer, Wien. ent. Monats. vii. p. 332 (October, 1863).

Walker placed this genus amongst the Crambites in his family Galleridæ. Lederer

\* The locality is stated to be in "Amérique centrale"; but this is evidently a mistake.

includes it amongst the Pyralidæ, in his section Homalochroidæ, placing it at the beginning of that family. *Mapeta* is represented in Central America by three species.

### 1. *Mapeta xanthomelas*.

*Mapeta xanthomelas*, Walk. Cat. xxvii. p. 17<sup>1</sup>; and xxxv. p. 1701<sup>2</sup>; Ragon. Ann. Soc. Ent. Fr. 1891, p. 646 (260)<sup>3</sup>.

*Homalochroa æstivalis*, Lederer, Wien. ent. Monats. vii. p. 333, t. 6. fig. 3<sup>4</sup>.

*Pyralopsis divisa*, Boisd. Léop. Guat. p. 94 (1870)<sup>5</sup>.

*Hab.* MEXICO, Orizaba (*H. J. Elwes*; *Boucard, in mus. D.*), Coatepec (*coll. Schaus*); GUATEMALA<sup>5</sup>, in the city (*Rodriguez*), San Gerónimo and Sabo in Vera Paz (*Champion*); COSTA RICA (*Van Patten, in mus. D.*), Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*; *Arcé, in mus. D.*), Bugaba 800 to 1000 feet (*Champion*), Colon (*Boucard, in mus. D.*).—COLOMBIA, Bogota<sup>1</sup>; VENEZUELA<sup>1 4</sup>; TRINIDAD; JAMAICA<sup>1</sup>.

A common and widely distributed species in Central America; it closely resembles *Pyralopsis homalochroa*, Feld. & Rogenh., from the same country.

### 2. *Mapeta schausi*, sp. n. (Tab. LIX. fig. 14, ♂.)

*Male.* Primaries golden-green, the costal and outer margins pale pea-green; secondaries bright orange-yellow; the fringe yellow; the underside bright yellow, the costal margin, apex, and outer margin of the primaries black: head pale greyish-green, the palpi black, the tegulæ, thorax, and abdomen bright orange-yellow, the antennæ, anus, and legs pale grey. Expanse 1¾ inch.

*Hab.* MEXICO, Rinconada in Vera Cruz (*coll. Schaus*).

Mr. Schaus informs me that he captured two specimens of this fine species; I have much pleasure in naming it after him.

### 3. *Mapeta cynosura*, sp. n. (Tab. LIX. fig. 13, ♂.)

*Male.* Primaries yellowish-green, the costal, outer, and inner margins edged with white; secondaries yellow, the fringe white; the underside yellowish-white, the primaries darker than the secondaries: head, palpi, and thorax white, the antennæ, abdomen, and legs yellowish-white. Expanse 1¼ inch.

*Hab.* MEXICO, Cuernavaca in Morelos (*H. H. Smith*).

Allied to *M. schausi*, but a much smaller insect.

## AZAMORA.

*Azamora*, Walker, Cat. xv. p. 1757 (1858).

*Torda*, Walker, Cat. xxviii. p. 436 (1863).

*Arica*, Walker, Cat. xxviii. p. 439.

*Thylacophora*, Ragonot, Ann. Soc. Ent. Fr. 1890, p. 490 (56).

The species of this genus are all from Tropical America. Mr. Warren, Trans. Ent. Soc. Lond. 1889, p. 238, has made a separate family for this and several closely allied genera under the name Azamoridæ, including all the species that have a membranous pouch at the base of the primaries in the male. Mons. Ragonot (Ann. Soc. Ent. Fr.



1891, p. 611) places Lederer's genus *Amblyura* under *Azamora*, but I believe them to be distinct.

1. ***Azamora penicillana*.** (Tab. LIX. fig. 17, ♀.)

*Torda penicillana*, Walk. Cat. xxviii. p. 437<sup>1</sup>.

*Azamora penicillana*, Warr. Trans. Ent. Soc. Lond. 1889, p. 239<sup>2</sup>.

*Thylacophora tortricoidalis*, Ragon. Ann. Soc. Ent. Fr. 1890, p. 491 (57), t. 5. figg. 2, 2a (♂)<sup>3</sup>.

*Hab.* COSTA RICA, Santa Clara Valley (*Zurcher*); PANAMA, Obispo (*Salvin, in mus. D.*).  
—GUIANA, Cayenne<sup>3</sup>; AMAZONS<sup>2</sup>, Pará<sup>1</sup>.

Three specimens, all females, agreeing with Walker's types in the National Museum. An example from Costa Rica is figured.

AMBLYURA.

*Amblyura*, Lederer, Wien. ent. Monats. vii. p. 357 (1863); Walker, Cat. xxxiv. p. 1290.

Lederer founded this genus upon a single species from Brazil; we now add two others from our region.

1. ***Amblyura proclea***, sp. n. (Tab. LIX. fig. 15, ♂.)

*Male*. Primaries dark brown, the base and two rather wide bands partly crossing the wing from the inner margin pale reddish-brown, a very distinct white dot about the middle of the costal margin, beyond which nearer the apex is a very minute white streak, a marginal row of very minute white spots extending from the apex to the anal angle, the fringe dark brown; secondaries uniformly greyish-brown: head, antennæ, thorax, abdomen, and legs pale brown.—*Female*. Very similar to the male, but without the pouch at the base of the primaries. Expanse  $\frac{7}{10}$  inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); PANAMA, Bugaba (*Champion*).

We figure a male from Bugaba.

2. ***Amblyura cecropia***, sp. n. (Tab. LIX. fig. 16, ♂.)

*Male*. Primaries dark glossy brown, crossed beyond the middle from the costal to the inner margin by a narrow pale yellowish-brown line, a marginal row of minute white dots extending from the apex to the anal angle, the fringe dark brown; secondaries slightly paler than the primaries; the underside as above.  
—*Female*. Similar to the male, but without the fold at the base of the primaries. Expanse  $\frac{1}{2}$  inch.

*Hab.* MEXICO, Atoyac in Vera Cruz (*H. H. Smith*); GUATEMALA, El Reposo 800 feet (*Champion*).

Two males and one female. A male from Atoyac is figured.

TOSALE.

*Tosale*, Walker, Cat. xxviii. p. 447 (1863); Ragonot, Ann. Soc. Ent. Fr. 1890, p. 499 (65).

*Fabatana*, Walker, Cat. xxxiv. p. 1265 (1865).

*Siparocera*, Grote, Check-list of North-Am. Moths, p. 52 (1882).

This is a small genus, of which, at most, two or three species are known; they closely resemble Tortricidæ, in which family Walker placed his genus *Tosale*. Several of the

following genera appear to be very closely allied to this one, if, indeed, they are distinct; but at present our material is insufficient to decide this point, as specimens cannot be spared for dissection.

1. **Tosale oviplagalis.** (Tab. LIX: figg. 18, ♂; 19, ♀.)

*Fabatana oviplagalis*, Walk. Cat. xxxiv. p. 1265 (1865)<sup>1</sup>.

*Asopia anthracioides*, Grote & Robins. Trans. Am. Ent. Soc. i. p. 15, t. 2. fig. 9 (♀) (1867)<sup>2</sup>.

*Siparocera nobilis*, Grote, Ann. Lyc. N. York, xi. p. 128 (1876)<sup>3</sup>.

*Siparocera nobilis*, Grote, Check-list of North-Am. Moths, p. 52<sup>4</sup>.

*Hab.* NORTH AMERICA<sup>1</sup>, New York<sup>3</sup>, Atlantic District<sup>2</sup>.—MEXICO, Presidio de Mazatlan (*Forrer*), Teapa in Tabasco (*H. H. Smith*), Paso de San Juan in Vera Cruz (*Schaus*); GUATEMALA, San Gerónimo, Senahu and Sinanja in Vera Paz, Cerro Zunil 4000 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

A common species in Mexico and Guatemala. The male specimen in Mr. Schaus's collection is in poor collection; it differs from the other specimens before me in having the primaries browner, with the bands very indistinct, and on the secondaries the black patch is more suffused. I should not care to name it without seeing more specimens. We figure a male from Teapa, and a female from Sinanja.

2. **Tosale** —?

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Two worn specimens, both females.

SALOBRENA.

*Salobrena*, Walker, Cat. xxviii. p. 446 (1863); Ragonot, Ann. Soc. Ent. Fr. 1891, p. 615 (229).

Walker founded this genus upon a single species from the Amazons, the female only of which was known to him; a second species, also from the Amazons, has been added by Felder and Rogenhofer; and a third is now described from Eastern Mexico.

1. **Salobrena cyrisialis**, sp. n. (Tab. LIX. fig. 20, ♂.)

*Male.* Primaries pale brown, crossed about the middle from the costal to the inner margin by a wide darker brown band, which is edged on the inner side with a reddish-brown line, the fringe dark brown; secondaries dull greyish-brown: head, palpi, thorax, abdomen, and legs pale brown.—*Female.* Very similar to the male. Expanse  $\frac{6}{10}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Teapa in Tabasco (*H. H. Smith*).

Two specimens. A male from Jalapa is figured.



ECTOPERIA.

*Ectoperia*, Zeller, Verh. zool.-bot. Ges. Wien, xxv. p. 331 (1875); Ragonot, Ann. Soc. Ent. Fr. 1890, p. 494 (60).

This genus was founded by Zeller upon a single species from Texas. Mons. Ragonot includes *Tamyra pusilla* and *T. gibbosa*, Feld. & Rogenh., the former from the Amazons and the latter from Colombia, in *Ectoperia*, and I now add two others from Central America.

1. *Ectoperia propylea*, sp. n. (Tab. LIX. figg. 21, 21 a, ♂; 22, ♀.)

*Male*. Primaries pale brown, crossed from the costal to the inner margin by three darker brown lines—the first, near the base, edged with paler brown on the inner side, the second, about the middle, edged with pale brown on the outer side, and the third submarginal and somewhat indistinct,—the fringe alternately light and dark brown; secondaries uniformly dark greyish-brown: head, antennæ, palpi, thorax, abdomen, and legs pale brown.—*Female*. Very similar to the male, but with the bands on the primaries indistinct. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

One male and three females.

2. *Ectoperia cynisca*, sp. n. (Tab. LIX. fig. 23, ♀.)

*Female*. Primaries uniformly dark brown, with a reddish-brown spot about the middle of the inner margin, which extends partly over the wing, and a marginal row of minute white dots on the outer margin, the fringe dark brown; secondaries dark brown: head, palpi, antennæ, thorax, abdomen, and legs dark brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*); GUATEMALA, Purula, Senahu, San Juan, and San Gerónimo in Vera Paz, Las Mercedes (*Champion*).

There is a worn male of this species in Mr. Schaus's collection; it is apparently very similar to the female. We figure a female example from Purula.

CLYDONOPTERON.

*Clydonopteron*, Riley, Amer. Ent. iii. p. 287 (1880); Ragonot, Ann. Soc. Ent. Fr. 1890, p. 501 (67).

This genus is closely allied to *Ectoperia*, Zeller; one species, *C. tecomæ*, Riley, from the South-western States of North America, is included in it by its describer, and a second, *Salobrena genualis*, Feld. & Rogenh., from the Amazons, is added by Mons. Ragonot. A third from Central America is here described.

1. *Clydonopteron pomponius*, sp. n. (Tab. LIX. fig. 24, ♀.)

*Female*. Primaries pale brown, crossed about the middle from the costal to the inner margin by a rather wide yellowish-fawn-coloured band, beyond which is a dark brown line edged with white on the costal margin; secondaries pale brown; the fringe of both wings pale brown: head, palpi, thorax, abdomen, and legs pale brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*); GUATEMALA, Senahu in Vera Paz (*Champion*).

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2 cc

The Guatemalan specimen, a male, is in very bad condition, and unfit to describe. We figure a female from Presidio.

### SACCOPLEURA.

*Saccopleura*, Ragonot, Ann. Soc. Ent. Fr. 1890, p. 502 (68).

Mons. Ragonot places this genus between *Clydonopteron* and *Epitamyra*. It includes a single species from Chiriqui, a specimen of which I have not seen.

#### 1. *Saccopleura catocalis*.

*Saccopleura catocalis*, Ragon. Ann. Soc. Ent. Fr. 1890, p. 503 (69) (♂)<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*mus. Staudinger*<sup>1</sup>).

### CATADUPA.

*Catadupa*, Walker, Cat. xxviii. p. 444 (1863).

Walker founded this genus upon a single species from the Amazons, placing it in the family Tortricidæ. *Catadupa* is not mentioned by Mons. Ragonot in his papers on the classification of the Pyralidæ.

#### 1. *Catadupa splendens*, sp. n. (Tab. LIX. fig. 25, ♂.)

*Male.* Primaries reddish-brown, the costal margin with two small white streaks beyond the middle, a marginal row of small white spots extending from the apex to the anal angle, the apex and a rather large spot at the anal angle reddish-orange; secondaries yellow, broadly bordered with reddish-orange; the fringe reddish-brown; head, antennæ, palpi, and thorax reddish-brown, the abdomen orange-yellow. Expanse  $\frac{3}{4}$  inch.

*Hab.* PANAMA, Bugaba 1000 feet (*Champion*).

One specimen.

### ACROPTERYX.

*Acropteryx*, Ragonot, Ann. Soc. Ent. Fr. 1890, p. 469 (35).

Mons. Ragonot includes in this genus a single species from Chiriqui, his type having the head and body mutilated; he states that it somewhat resembles *Saccopleura* in the shape of the wings.

#### 1. *Acropteryx herbacealis*.

*Acropteryx herbacealis*, Ragon. Ann. Soc. Ent. Fr. 1890, p. 470 (36) (♂)<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*mus. Staudinger*).

Unknown to me.

### GALASA.

*Galasa*, Walker, Cat. xxxv. p. 1801 (1866); Ragonot, Ann. Ent. Soc. Fr. 1891, p. 618 (232).

*Cordylopeza*, Zeller, Verh. zool.-bot. Ges. Wien, xxiii. p. 206, t. 3. figg. 3 b-3 e (1873); Ragonot, Ann. Soc. Ent. Fr. 1890, p. 508 (74).



The type of Walker's genus was from Jamaica, and that of Zeller from North America; they are based upon the same species, *G. rubidana*, Walk. (= *nigrinodis*, Zell.).

1. ***Galasa deera***, sp. n. (Tab. LX. fig. 1.)

Primaries reddish-brown, crossed about the middle from the costal to the inner margin by a fine greyish-white line, a submarginal line of the same colour extending from the costal margin to the anal angle; secondaries greyish, darkest round the outer margin: head and thorax reddish-brown, the abdomen grey, banded with white, the legs grey. Expanse  $\frac{6}{10}$  inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*).

One specimen.

2. ***Galasa* (?) *daulialis***, sp. n. (Tab. LX. fig. 4.)

*Male.* Primaries reddish-brown, crossed about the middle from the costal to the inner margin by a wide, pale, bluish-grey band, which is edged on the inner side by a narrow white line, a curved dark brown line crossing the wing beyond the middle, the fringe reddish-brown; secondaries blackish-brown, the fringe blackish-brown: head, thorax, and tegulae pale reddish-brown, the abdomen and legs blackish-brown. Expanse  $\frac{8}{10}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen.

## CARCHA.

*Carcha*, Walker, Cat. xvii. p. 281 (1859).

*Caeloma*, Möschler, Abhandl. Senck. Ges. Frankf. xvi. p. 276 (1891).

Walker's type of the genus *Carcha* was from San Domingo, that of *Caeloma*, Möschl., from Porto Rico; they belong to the same species.

1. ***Carcha hersilialis***.

*Carcha hersilialis*, Walk. Cat. xvii. p. 282<sup>1</sup>.

*Pyralis dispansalis*, Walk. Cat. xxxiv. p. 1228<sup>2</sup>.

*Pyralis curtalis*, Walk. loc. cit. p. 1230<sup>3</sup>.

*Caeloma tortricalis*, Möschl. Abhandl. Senck. Ges. Frankf. xvi. p. 277<sup>4</sup>; Ragon. Ann. Soc. Ent. Fr. 1890, p. 498 (64)<sup>5</sup>, and 1891, p. 614 (228)<sup>6</sup>.

*Hab.* HONDURAS, Limas<sup>3</sup>.—ANTILLES, Cuba<sup>5</sup>, San Domingo<sup>1 2</sup>, Porto Rico<sup>4</sup>.

## ETHNISTIS.

*Ethnistis*, Lederer, Wien. ent. Monats. vii. p. 245 (1863); Ragonot, Ann. Soc. Ent. Fr. 1890, p. 486 (52).

*Vurna*, Walker, Cat. xxxiv. p. 1189 (1865).

*Gazaca*, Walker, loc. cit. p. 1273 (1865).

### 1. *Ethnistis munitalis*.

*Ethnistis munitalis*, Lederer, Wien. ent. Monats. vii. p. 345, t. 6. fig. 13 (♀)<sup>1</sup>; Walk. Cat. xxxiv. p. 1321<sup>2</sup>; Ragon. Ann. Soc. Ent. Fr. 1890, p. 487 (53)<sup>3</sup>.

*Vurna instructalis*, Walk. Cat. xxxiv. p. 1189<sup>4</sup>.

*Gazaca dirutalis*, Walk. loc. cit. p. 1274<sup>5</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); HONDURAS, Limas<sup>5</sup>; PANAMA, Chiriqui<sup>3</sup> (*Ribbe, in mus. Staudinger*).—VENEZUELA<sup>1 2 3</sup>; ANTILLES, San Domingo<sup>4</sup>, Dominica.

The specimen from Dominica in my own collection is much darker in colour, and has the large dark spot on the primaries more distinct, but in other respects it is almost identical with those from our region.

### IDNEA.

*Idnea*, Herrich-Schäffer, Samml. aussercur. Schmett. p. 75 (1850–58); Ragonot, Ann. Soc. Ent. Fr. 1890, p. 470 (36).

*Uzeda*, Walker, Cat. xxviii. p. 442 (1863).

This genus now contains about five species, all from Tropical South America; one of these extends into the southern part of our region.

### 1. *Idnea propriana*. (Tab. LX. fig. 2, ♀.)

*Torda propriana*, Walk. Cat. xxviii. p. 438<sup>1</sup>.

*Uzeda vitriferana*, Walk. loc. cit. p. 442<sup>2</sup>.

*Hab.* PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—AMAZONS, Ega<sup>1 2</sup>; EAST PERU.

One specimen, almost identical with Walker's type in the National Museum.

### ZANCLODES.

*Zanclodes*, Ragonot, Ann. Soc. Ent. Fr. 1890, p. 474 (40).

This very remarkable genus was founded by Mons. Ragonot upon a single species from Brazil; it is allied to *Idnea*, Herr.-Schäffer. The insect extends northwards to Eastern Mexico.

### 1. *Zanclodes falcularis*.

*Zanclodes falcularis*, Ragon. Ann. Soc. Ent. Fr. 1890, p. 475 (41), t. 7. figg. 3, 3 a, b<sup>1</sup>.

*Hab.* MEXICO, Atoyac in Vera Cruz (*H. H. Smith*).—BRAZIL, Espiritu Santo<sup>1</sup>.

The Mexican specimen before me is almost identical with M. Ragonot's figure.

### PSECTRODES.

*Psectrodes*, Ragonot, Ann. Soc. Ent. Fr. 1890, p. 488 (54).

Mons. Ragonot refers three species to this genus, all of which are from Tropical South America; one of them also inhabits our region.



1. *Psectrodes herminialis*.

*Psectrodes herminialis*, Ragon. Ann. Soc. Ent. Fr. 1890, p. 488 (54), t. 7. figg. 6, 6 a (♀) <sup>1</sup>.

*Hab.* BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); PANAMA, Chiriqui (*Arcé, in mus. D.*).—BRAZIL <sup>1</sup>.

Our specimens agree well with Ragonot's figures.

## TETRAPHANA.

*Tetraphana*, Ragonot, Ann. Soc. Ent. Fr. 1890, p. 471 (37).

The type of this genus is *Ametris quadrifenestrata*, Herr.-Schäff., from Tropical South America; two other species have since been described by Dr. Pagenstecher, and we now add a very fine one from our region.

1. *Tetraphana alipes*.

*Tetraphana alipes*, Pagenst. Iris, v. p. 3, t. 1. fig. 1 (*T. albipes*) <sup>1</sup>.

*Hab.* MEXICO, Cuesta de Misantla in Vera Cruz (*M. Trujillo*).—AMAZONS, S. Paulo <sup>1</sup>.

One specimen, agreeing well with Dr. Pagenstecher's figure.

2. *Tetraphana daphne*, sp. n. (Tab. LX. figg. 5, 6, ♀.)

*Female.* Primaries and secondaries bright orange-red; the primaries shaded from the base to beyond the middle and along the costal margin with purplish-brown, and with a large hyaline round spot edged with black at the end of the cell, on the outer side of which is a short red streak and three narrow black lines crossing the wing from the costal to the inner margin—the first two concave, nearest the base, the third straight, considerably beyond the middle, this line continued across the middle of the secondaries to the anal angle; the fringe reddish-brown; the inner margin of the secondaries clothed with pure white hairs; the underside of both wings silky white, slightly shaded with yellow on the costal and outer margins, each wing with a submarginal row of indistinct fawn-coloured spots extending from the apex to the inner margin, the costal margin of the primaries and the fringe of both wings fawn-coloured: head, palpi, antennæ, thorax, and upperside of the abdomen bright orange-red, the base of the palpi and the thorax and abdomen white beneath; the legs white, the anterior pair with the femora and tibiæ red. Expanse  $2\frac{3}{4}$  inches.

*Hab.* MEXICO, Coatepec (*coll. Schaus*); PANAMA, Volcan de Chiriqui (*Ribbe, in mus. Staudinger*).

We figure Mr. Schaus's specimen from Coatepec; the one in Dr. Staudinger's collection is considerably paler in colour.

## SIGA.

*Siga*, Hübner, Verz. bek. Schmett. p. 197 (1816); Walker, Cat. xi. p. 670.

This genus was founded upon *Phalæna liris*, Cram., from the West Indies; we now add a second species from our region. *Siga* was placed amongst the Noctuidæ by Walker.

1. **Siga pyronia**, sp. n. (Tab. LX. fig. 7, ♀.)

*Female*. Primaries pale grey, crossed beyond the middle from the costal to near the inner margin by a wide hyaline band, which becomes quite narrow as it reaches the inner margin, and with a square-shaped hyaline spot at the end of the cell, beyond which on the outer side is an oval yellow spot, the costal margin and fringe whitish; secondaries pale grey, crossed about the middle from the costal to near the inner margin by a waved, rather wide, hyaline band, which is edged on the outer side with a zigzag yellow band, the fringe grey, on the inner margin white; the underside of both wings silky white, showing the hyaline bands: head, thorax, and abdomen greenish-grey above, white beneath, the antennæ yellowish-brown. Expanse  $2\frac{3}{4}$  inches.

*Hab.* PANAMA, Chiriqui (*Trötsch*, in *mus. Staudinger*).

A very distinct species.

MACALLA.

*Macalla*, Walker, Cat. xvi. p. 155 (1858).

*Aradrapa*, Walker, Cat. xxxiv. p. 1257 (1865).

This genus has been twice described by Walker, and from the same species—first under the *Deltoidæ* and later under the *Pyalidæ*; the types are from Honduras. A second species is now added from the State of Panama. Walker's names are not mentioned by Mons. Ragonot.

1. **Macalla thyrsisalis**.

*Macalla thyrsisalis*, Walk. Cat. xvi. p. 156<sup>1</sup>.

*Aradrapa mixtalis*, Walk. Cat. xxxiv. p. 1257<sup>2</sup>.

*Hab.* HONDURAS (*Miller*<sup>1</sup>, *Dyson*<sup>2</sup>).

The only specimens I have seen of this species are the types in the National Collection.

2. **Macalla dapha**, sp. n. (Tab. LX. figg. 3, 3 a.)

Primaries fawn-colour, with an indistinct waved submarginal line extending from the costal to the inner margin, and a small black dot at the end of the cell; secondaries considerably paler than the primaries, semihyaline; the underside somewhat redder than above: head, antennæ, palpi, thorax, abdomen, and legs fawn-colour. Expanse  $1\frac{1}{4}$  inch.

*Hab.* PANAMA, Bugaba, Volcan de Chiriqui (*Champion*).

Two specimens, both of which appear to be males.

AURADISA.

*Auradisa*, Walker, Cat. xxxiv. p. 1504 (1865).

A genus containing a single species from Honduras; it is not noticed by Mons. Ragonot.

1. **Auradisa gelidalis**.

*Auradisa gelidalis*, Walk. Cat. xxxiv. p. 1505<sup>1</sup>.

*Myelois subalbella*, Walk. Cat. xxxv. p. 1714<sup>2</sup>.

*Hab.* HONDURAS (*Miller*<sup>1 2</sup>).

The types of these insects are in the British Museum.



## DEUTEROLLYTA.

*Deuterollyta*, Lederer, Wien. ent. Monats. vii. p. 358 (1863).

This genus was founded upon a Brazilian species, *D. conspiciualis*, Leder.; it appears to be very closely allied to *Hemimatia*.

1. *Deuterollyta extensa*.

*Nephopteryx extensa*, Walk. Cat. xxvii. p. 61<sup>1</sup>.

*Deuterollyta variegata*, Warr. Ann. & Mag. Nat. Hist. (6) vii. p. 433<sup>2</sup>.

*Hab.* GUATEMALA (*Conradt, in mus. Staudinger*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—SOUTH-EAST BRAZIL, Rio Janeiro<sup>1 2</sup>.

The three specimens from Guatemala in Dr. Staudinger's collection are all in very poor condition, but I believe they are referable to Walker's species, examples of which from Rio Janeiro are contained in my own collection.

## HEMIMATIA.

*Hemimatia*, Lederer, Wien. ent. Monats. vii. p. 347 (1863).

*Toripalpus*, Grote, Proc. Bost. Soc. Nat. Hist. xix. p. 265 (1878).

Lederer included three species in *Hemimatia*—one from North America and two from Venezuela; the type of *Toripalpus* is *T. breviornatalis*, Grote, from Texas and Colorado. One of Lederer's species inhabits Northern Mexico.

1. *Hemimatia robustella*.

*Tetralopha robustella*, Zeller, Isis, 1848, p. 881<sup>1</sup> (reprinted by Grote, Bull. U. S. Geol. & Geogr. Surv. iv. p. 690).

*Hemimatia scortealis*, Lederer, Wien. ent. Monats. vii. pp. 347, 459, t. 7. fig. 12<sup>2</sup>.

*Hab.* NORTH AMERICA<sup>2</sup>, Georgia<sup>1</sup>, Colorado.—MEXICO, Northern Sonora (*Morrison*).

One specimen, very similar to others from Colorado in my own collection.

## UGRA.

*Ugra*, Walker, Cat. xxvii. p. 188 (1863).

*Euxippe*, Ragonot, Ann. Soc. Ent. Fr. 1890, p. 538 (104).

I believe Ragonot's genus to be the same as Walker's.

1. *Ugra parallela*.

*Ugra parallela*, Walk. Cat. xxvii. p. 189<sup>1</sup>; Warr. Trans. Ent. Soc. Lond. 1889, p. 260<sup>2</sup>.

*Euxippe bistrialis*, Ragon. Ann. Soc. Ent. Fr. 1890, p. 539 (105)<sup>3</sup>.

*Hab.* HONDURAS (*Dyson*<sup>1</sup>).—AMAZONS<sup>2</sup>; BRAZIL, Pernambuco<sup>3</sup>.

2. **Ugra subrosealis.** (Tab. LX. fig. 8, ♀.)

*Scopula subrosealis*, Walk. Cat. xxxiv. p. 1463<sup>1</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Las Mercedes (*Champion*); HONDURAS, Limas<sup>1</sup>.—ECUADOR.

The specimens from our region are almost identical with others from Ecuador in my own collection; the latter are slightly darker in colour.

OPHIAS.

*Ophias*, Ragonot, Ann. Soc. Ent. Fr. 1890, p. 517 (83).

This genus was founded by Mons. Ragonot upon a single species from Brazil, the female only of which was known to him; the insect also occurs in the State of Panama.

1. **Ophias albiundalis.**

*Ophias albiundalis*, Ragon. Ann. Soc. Ent. Fr. 1890, p. 518 (84), t. 5. figg. 5, 5 a<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—BRAZIL, Pernambuco<sup>1</sup>.

One specimen from Chiriqui, very similar to Mons. Ragonot's figure, but with the lines crossing the primaries less distinct.

Subfam. *PYRALIDINÆ*.

STEMMATOPHORA.

*Stemmatophora*, Guenée, Sp. gén. des Lép. viii. p. 129 (1854); Lederer, Wien. ent. Monats. vii. p. 337; Möschler, Beitr. zur Schmett.-Fauna von Surinam, iv. p. 27; Ragonot, Ann. Soc. Ent. Fr. 1891, p. 85 (183).

The species placed in this genus by Guenée are all from the Old World. Möschler describes one from Surinam, and I now add two others.

1. **Stemmatophora nattereri.**

*Cliniodes* (?) *nattereri*, Feld. & Rogenh. Reise der Novara, Lep. t. 136. fig. 29<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*Schaus*).—AMAZONS<sup>1</sup>; BRAZIL<sup>1</sup>.

A single specimen from Mexico, is rather smaller than Felder and Rogenhofer's figure.

2. **Stemmatophora demonica**, sp. n. (Tab. LX. fig. 9, ♂.)

*Male*. Primaries and secondaries dark glossy brown; the primaries with a tuft of pale scales on the costal margin, and crossed from the costal to the inner margin by two faint brown lines—the first nearest the base, the second beyond the middle; the fringe dark glossy brown; the underside as above, but with the lines crossing the primaries less distinct: head, thorax, abdomen, antennæ, and legs dark brown.—

*Female*. Very similar to the male, but not so glossy. Expanse, ♂ ♀, 1½ inch.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*Schaus*), Cuesta de Misantla



(*M. Trujillo*), Rio Papagaio in Guerrero (*H. H. Smith*); GUATEMALA, San Gerónimo, San Isidro (*Champion*); COSTA RICA, Candelaria Mts. (*Underwood*).—GUIANA (*Whitely*).

A very dull-coloured species, varying considerably in size, and in the distinctness of the lines crossing the primaries—in some specimens they are almost obliterated, and in others very distinct. We figure a male from the Rio Papagaio. The specimens collected by Mr. Whitely in British Guiana do not differ from those from our region.

### 3. *Stemmatophora* (?) *albopunctalis*, sp. n. (Tab. LX. fig. 10, ♀.)

*Female*. Primaries and secondaries dark glossy brown, with the fringe of the same colour; the primaries crossed about the middle by a row of three white spots—the first on the costal margin, the second at the end of the cell, and the third on the inner margin,—and with a small round white dot in the middle of the cell; the underside paler than above, and without the white spots on the primaries: head, antennæ, thorax, abdomen, and legs dark brown. Expanse 1 inch.

*Hab.* GUATEMALA, Sabo, Panima, and San Gerónimo in Vera Paz (*Champion*).

Three females.

## PYRALIS.

*Pyrallis*, Linnæus, Syst. Nat. 10th edit. i. p. 533 (1758); Walker, Cat. xvii. p. 260; Meyrick, Trans. Ent. Soc. Lond. 1890, p. 475.

*Orthopygia*, Ragonot, Ann. Soc. Ent. Fr. 1891, p. 29.

### 1. *Pyrallis glaucinalis*.

*Phalæna Pyralis glaucinalis*, Linn. Syst. Nat. 10th edit. i. p. 533<sup>1</sup>; 12th edit. i. 2, p. 881<sup>2</sup>; Faun. Suec. p. 351 (1761)<sup>3</sup>; Clerck, Icon. Ins. t. 3. fig. 4<sup>4</sup>; Walk. Cat. xvii. p. 263<sup>5</sup>.

*Orthopygia glaucinalis*, Ragon. Ann. Soc. Ent. Fr. 1891, p. 32<sup>6</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Amula in Guerrero 6000 feet (*H. H. Smith*).—EUROPE<sup>1-6</sup>; JAPAN<sup>6</sup>.

### 2. *Pyrallis datames*, sp. n. (Tab. LX. fig. 11.)

Primaries very similar to those of *P. glaucinalis*, but with the yellow lines fainter and not widened-out on the costal margin as in that species; secondaries white, without lines: head, thorax, and abdomen pale brown, the antennæ brown. Expanse 1½ inch.

*Hab.* MEXICO, Omilteme and Amula in Guerrero 6000 to 8000 feet (*H. H. Smith*).

This species may be at once distinguished from *P. glaucinalis* by the white secondaries.

### 3. *Pyrallis decetialis*, sp. n. (Tab. LX. fig. 12.)

Primaries uniformly glossy pinkish brown; secondaries pale silky grey, the outer margin and fringe rather darker; the underside very much as above: head, thorax, and abdomen pinkish-brown. Expanse 1⅞ inch.

*Hab.* MEXICO, Omilteme in Guerrero 8000 feet (*H. H. Smith*).

One specimen, apparently a female.

## ASOPIA.

*Asopia*, Treitschke, Schmett. Europ. vii. p. 146 (1829); Lederer, Wien. ent. Monats. vii. p. 342.

1. *Asopia nostralis*.

*Pyrallis nostralis*, Guen. Sp. gén. des Lép. vii. p. 122<sup>1</sup>; Walk. Cat. xvii. p. 266<sup>2</sup>.

*Asopia nostralis*, Leder. Wien. ent. Monats. vii. p. 343, t. 7. fig. 5<sup>3</sup>.

*Orthopygia nostralis*, Ragon. Ann. Soc. Ent. Fr. 1891, pp. 32, 629<sup>4</sup>.

*Asopia graafialis*, Snell. Tijdschr. voor Ent. xviii. p. 189, t. 11. fig. 1<sup>5</sup>.

*Hab.* MEXICO, Presidio (*Forrer*), Amula in Guerrero 6000 feet (*H. H. Smith*); GUATEMALA, Panima and Purula in Vera Paz, El Tumbador (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA<sup>4 5</sup>; VENEZUELA<sup>2 3</sup>; BRAZIL<sup>1 2 3</sup>.

This insect varies considerably in size and colour, and in the distinctness of the markings. *A. graafialis*, Snell., is, I believe, nothing more than a highly-coloured form of the same species, several of our specimens closely resembling it.

## HYPERPARACHMA.

*Hyperparachma*, Warren, Ann. & Mag. Nat. Hist. (6) viii. p. 61 (1891).

Mr. Warren gives *Pyrallis bursarialis*, Walker, from Honduras, as the type of this genus, and he also refers a Brazilian species to it. I have not seen a specimen of either of them.

1. *Hyperparachma bursarialis*.

*Pyrallis* (?) *bursarialis*, Walk. Cat. xxxiv. p. 1231<sup>1</sup>.

*Hyperparachma bursarialis*, Warr. Ann. & Mag. Nat. Hist. (6) viii. p. 61<sup>2</sup>.

*Hab.* HONDURAS, Limas<sup>1 2</sup>.

## CHALCOELA.

*Chalcoela*, Zeller, Verh. zool.-bot. Ges. Wien, xxii. p. 528 (1872).

Zeller founded this genus upon a single species from Texas.

1. *Chalcoela aurifera*.

*Chalcoela aurifera*, Zeller, Verh. zool.-bot. Ges. Wien, xxii. p. 529, t. 2. figg. 12 *a, b*<sup>1</sup>; Grote, Canad. Ent. x. p. 29<sup>2</sup>.

*Hab.* NORTH AMERICA, Colorado, Texas<sup>1 2</sup>, Florida.—GUATEMALA, San Gerónimo (*Champion*).

One specimen, similar to others from North America in my own collection.

2. *Chalcoela principalis*.

*Cataclysta principalis*, Walk. Cat. xxxiv. p. 1333<sup>1</sup>.

*Cataclysta robinsonii*, Grote, Canad. Ent. iii. p. 181<sup>2</sup>.



*Chalcoela robinsonii*, Grote, Canad. Ent. x. p. 29<sup>3</sup>.

*Cataclysta egressalis*, Walk. Cat. xxxiv. p. 1335<sup>4</sup>.

*Hab.* NORTH AMERICA<sup>1 2 3</sup>. — MEXICO, Northern Sonora (*Morrison*). — ANTILLES, Jamaica<sup>1 4</sup>, Dominica.

One worn specimen, showing that this species just enters our limits.

### CACOGRAPHS.

*Cacographis*, Lederer, Wien. ent. Monats. vii. p. 360 (1863).

#### 1. *Cacographis osteolalis*.

*Cacographis osteolalis*, Leder. Wien. ent. Monats. vii. p. 360, t. 8. fig. 1<sup>1</sup>; Walk. Cat. xxxiv. p. 1225<sup>2</sup>; Feld. Reise der Nov., Lep. t. 120. fig. 14<sup>3</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); PANAMA, Chiriqui (*Arcé, in mus. D.*; *Trötsch, in mus Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*). — COLOMBIA, Bogota<sup>3</sup>; VENEZUELA<sup>1 2</sup>.

The Panama specimens are much darker than those from Mexico. Felder's figure is taken from a small example.

### SUFETULA.

*Sufetula*, Walker, Cat. xix. p. 946 (1859).

Walker included in this genus a single species from Borneo; four others from Central or South America are now somewhat doubtfully referred to it.

#### 1. *Sufetula diminutalis*.

*Isopteryx* (?) *diminutalis*, Walk. Cat. xxxiv. p. 1315<sup>1</sup>.

*Hab.* HONDURAS, Limas<sup>1</sup>.

The type in the National Museum is in very bad condition.

#### 2. *Sufetula dentata*, sp. n. (Tab. LX. fig. 13.)

*Male*. Primaries brownish-fawn-colour, crossed by two fine waved cream-coloured lines—the first near the base, the second beyond the cell,—the fringo alternately light and dark fawn-colour; secondaries pale cream-colour, the marginal line brown, the fringo cream-colour: head, antennæ, and thorax brownish-fawn-colour, the abdomen greyish; legs white, banded with brown. Expanse 1 inch.

*Hab.* GUATEMALA, Panima in Vera Paz (*Champion*).

#### 3. *Sufetula rusina*, sp. n. (Tab. LX. fig. 14.)

Primaries fawn-colour, with two semihyaline white spots beyond the middle, the spots edged with black, and preceded and followed by a small white streak, the fringe black, white at the anal angle; secondaries hyaline-white, the outer margin broadly bordered with fawn-colour: head, antennæ, thorax, and abdomen fawn-colour. Expanse 1½ inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

The specimen figured I believe to be a female, unique in Mr. Schaus's collection.

#### 4. *Sufetula melliculalis*.

*Sparagmia* (?) *melliculalis*, Leder. Wien. ent. Monats. vii. pp. 414, 480, t. 15. fig. 6<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, Senahu in Vera Paz, Cerro Zunil, Las Mercedes (*Champion*); COSTA RICA, Candelaria Mts. (*Underwood*), Volcan de Irazu 6000 to 7000 feet (*Rogers*).—VENEZUELA<sup>1</sup>.

A few specimens only, varying greatly in size and in the distinctness of the dark lines crossing the primaries.

#### PYRAUSTA.

*Pyrausta*, Schrank, Fauna Boica, ii. 2, p. 163 (1802); Meyrick, Trans. Ent. Soc. Lond. 1890, p. 449.

##### 1. *Pyrausta inaequalis*.

*Herbula subaequalis*, Guen. Sp. gén. des Lép. viii. p. 177 (nec Herr.-Schäff)<sup>1</sup>; Walk. Cat. xvii. p. 323<sup>2</sup>.

*Herbula inaequalis*, Guen. Sp. gén. des Lép. viii. p. 447, Atlas, Delt. et Pyral. t. 8. fig. 3<sup>3</sup>.

*Botys inaequalis*, Leder. Wien. ent. Monats. vii. p. 368<sup>4</sup>.

*Isopteryx* (?) *madetesalis*, Walk. Cat. xix. p. 946<sup>5</sup>.

*Herbula repletalis*, Walk. Cat. xxxiv. p. 1285<sup>6</sup>.

*Herbula* (?) *efficitalis*, Walk. loc. cit. p. 1287<sup>7</sup>.

*Hab.* NORTH AMERICA<sup>1-4 8</sup>.—MEXICO, Milpas in Durango 5900 feet (*Forrer*), Jalapa (*M. Trujillo*); GUATEMALA, Totonicapam 8500 to 10,500 feet, Dueñas, San Gerónimo (*Champion*); COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).

A common and widely distributed species in Central America. No locality is given by Walker<sup>5 7</sup> for *I. madetesalis* and *H. efficitalis*.

##### 2. *Pyrausta borealis*.

*Pyrausta borealis*, Pack. Proc. Bost. Soc. Nat. Hist. xi. p. 53<sup>1</sup>.

*Botis* (*Pyrausta*) *matronalis*, Grote, Bull. Buff. Soc. N. Sc. ii. p. 231<sup>2</sup>.

*Hab.* NORTH AMERICA, Labrador<sup>1</sup>, Canada<sup>2</sup>.—MEXICO, Ciudad in Durango 8100 feet (*Forrer*), Jalapa and Santa Cruz in Vera Cruz (*M. Trujillo*); GUATEMALA, San Gerónimo, Calderas, Totonicapam 8500 to 10,500 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

We have received a long series of this species from the Los Altos region of Guatemala, these specimens showing scarcely any variation. The single example from Costa Rica is darker than any of the others before me.

##### 3. *Pyrausta cyralis*, sp. n. (Tab. LX. fig. 15, ♂.)

*Male.* Primaries yellow, shaded with brownish-yellow dots, the fringe greyish-yellow; secondaries yellowish-white, with a dusky submarginal line extending from the apex to the anal angle, the fringe greyish-



white: head, antennæ, tegulæ, and thorax yellow, the abdomen and legs pale yellowish-white.—*Female*. Very similar to the male. Expanse 1 inch.

*Hab.* NORTH AMERICA, Arizona.—MEXICO, Northern Sonora (*Morrison*).

4. ***Pyrausta decetialis***, sp. n. (Tab. LX. fig. 16, ♂.)

*Male*. Primaries yellowish-brown, crossed from the costal to the inner margin by two rows of minute black dots, the marginal line black, the fringe yellow; secondaries semihyaline-blackish-brown, the fringe and the anal angle yellowish: head, the thorax above, and the abdomen blackish-brown, the anus yellow; the underside of the thorax and the legs whitish-yellow.—*Female*. Similar to the male, but slightly darker. Expanse 1 inch.

*Hab.* COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

Two specimens.

CALAMOCHROUS.

*Calamochrous*, Lederer, Wien. ent. Monats. vii. p. 386 (1863) (part.).

1. ***Calamochrous chilonalis***.

*Calamochrous chilonalis*, Leder. Wien. ent. Monats. vii. p. 387, t. 12. fig. 10<sup>1</sup>.

*Calamochrous chilonellus*, Leder. loc. cit. p. 477<sup>2</sup>.

*Hab.* COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).—VENEZUELA<sup>1 2</sup>.

A considerable number of specimens of what I believe to be this species were captured by Rogers in Costa Rica. They are very similar to Lederer's figure; some of them, however, have the wings much darker.

PHLYCTÆNIA.

*Phlyctænia*, Hübner, Verz. bek. Schmett. p. 359 (1816); Meyrick, Trans. Ent. Soc. Lond. 1890, p. 446.

1. ***Phlyctænia praxitalis***, sp. n. (Tab. LX. fig. 17.)

*Male*. Primaries pale greyish-brown, with a small square cream-coloured spot at the end of the cell and a large similarly coloured spot near the apex extending almost to the anal angle, the fringe greyish-brown; secondaries greyish-hyaline, edged with greyish-brown from the apex to the anal angle; the primaries much lighter beneath: head, thorax, and abdomen greyish-brown. Expanse 1 inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Rinconada and Coatepec in Vera Cruz (*coll. Schaus*); GUATEMALA (*Salvin, in mus. D.*); COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).

We figure a specimen from Jalapa. The example from Costa Rica is much darker.

2. ***Phlyctænia* (?) *prusalis***, sp. n. (Tab. LX. fig. 18.)

Primaries pale brown, crossed from the costal to the inner margin by two fine curved darker brown lines, which are edged with white on the costal margin—the first line near the base, the second beyond the cell,—and with a round white spot at the end of the cell, the fringe pale brown; secondaries pale

brownish-white, darker at the apex and round the outer margin, a faint narrow brown submarginal line extending from the costal margin above the apex to a small black dot near the anal angle; the underside paler than above: head, thorax, and abdomen brown.—*Female*. Very similar to the male. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

One male and two females.

### SYLLYTHRIA.

*Syllythria*, Hübner, Verz. bek. Schmett. p. 349 (1816).

*Hematia*, Hübner, loc. cit.

*Rhodaria*, Guenée, Sp. gén. des Lép. viii. p. 168.

The species of this genus are very widely distributed. Ten are known to me from within our limits, five of which are described as new.

#### 1. *Syllythria tyralis*.

*Rhodaria tyralis*, Guen. Sp. gén. des Lép. viii. p. 169<sup>1</sup>; Walk. Cat. xvii. p. 316<sup>2</sup>.

*Botys tyralis*, Leder. Wien. ent. Monats. vii. p. 367<sup>3</sup>.

*Pyrausta erosnealis*, Walk. Cat. xvii. p. 311<sup>4</sup>.

*Botys diffissa*, Grote & Robins. Trans. Am. Ent. Soc. i. p. 19, t. 2. fig. 16<sup>5</sup>.

*Botis bellulalis*, Hulst, Trans. Am. Ent. Soc. xiii. p. 149<sup>6</sup>.

*Hab.* NORTH AMERICA<sup>3</sup>, United States<sup>4</sup>, Louisiana<sup>5</sup>, Texas<sup>6</sup>.—MEXICO, Cuernavaca in Morelos, Amula in Guerrero 8000 feet (*H. H. Smith*), Temax in North Yucatan (*Gaumer*).—CUBA<sup>1 2 3 5</sup>; BRAZIL<sup>3</sup>.

Three specimens.

#### 2. *Syllythria rosa*, sp. n. (Tab. LX. fig. 19.)

Primaries rose-pink; secondaries pale fawn-colour, darker near the apex, shaded with rose-pink on the outer margin near the anal angle: head and antennæ fawn-colour; the thorax and abdomen fawn-colour above, white beneath, the tegulæ pink; the legs white. Expanse  $\frac{6}{10}$  inch.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*), Atoyac in Vera Cruz (*Schumann*), Teapa in Tabasco (*H. H. Smith*).

Allied to *S. tyralis* (Guen.), but without the yellow markings on the primaries. We figure a specimen from Presidio.

#### 3. *Syllythria idessa*, sp. n. (Tab. LX. fig. 20.)

Primaries dark pink, crossed from the costal to the inner margin by two rather wide bright yellow bands—the first near the base, the second beyond the middle,—and with a round bright yellow dot at the end of cell; secondaries dark pink, shaded with yellow: head, antennæ, collar, and legs pale brown, the thorax and abdomen dark pink, the anus yellow. Expanse  $\frac{1}{2}$  inch.

*Hab.* GUATEMALA, San Gerónimo (*Champion*).

One specimen only of this very distinct species has been received.



4. *Syllythria* (?) *conradti*, sp. n. (Tab. LX. fig. 21.)

Primaries pale yellowish-green, the apex and outer margin edged with brown, the fringe pale yellow; secondaries pale greyish-brown, the marginal line dark brown, the fringe reddish-brown: head, antennæ, thorax, and abdomen yellowish-green, the legs greyish-brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* GUATEMALA (*Conradt, in mus. Staudinger*).

One specimen.

5. *Syllythria* *salvia*, sp. n. (Tab. LX. fig. 22.)

Primaries pinkish-red, crossed from the costal to the inner margin by two fine waved yellow lines—the first close to the base, the second submarginal,—the marginal line yellow, the fringe reddish-brown; secondaries deep orange-red, the fringe brown at the apex and red on the outer and inner margins: head and thorax reddish-brown, the antennæ and legs brown (abdomen wanting). Expanse  $\frac{1}{2}$  inch.

*Hab.* MEXICO, Tierra Colorada in Guerrero 2000 feet (*H. H. Smith*).

One specimen.

6. *Syllythria* *panopealis*.

*Rhodaria panopealis*, Walk. Cat. xvii. p. 318<sup>1</sup>.

*Botys panopealis*, Leder. Wien. ent. Monats. vii. p. 367<sup>2</sup>.

*Botys* (?) *cæciliæ*, Walk. Cat. xviii. p. 581<sup>3</sup>.

*Rhodaria ocellusalis*, Walk. Cat. xix. p. 923<sup>4</sup>.

*Rhodaria catenalis*, Walk. Cat. xxxiv. p. 1282<sup>5</sup>.

*Rhodaria juncturalis*, Walk. Cat. xxxiv. p. 1283<sup>6</sup>.

*Hab.* GUATEMALA, Zapote (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—AMAZONS; BRAZIL<sup>2</sup>; ANTILLES, San Domingo<sup>3 5</sup>.—CHINA<sup>1</sup>; S. INDIA<sup>6</sup>; W. AFRICA, Sierra Leone<sup>4</sup>.

We have received a few specimens of this widely distributed species from Guatemala and the State of Panama; these are very similar to others from India and West Africa in my own collection.

7. *Syllythria* *rhealis*, sp. n. (Tab. LX. fig. 23.)

*Female*. Primaries dark reddish-brown, paler near the outer margin, with a large U-shaped cream-coloured mark about the middle of the costal margin and a wide yellow streak near the apex, the outer margin and fringe yellow, the base of the wing and several small spots on the inner margin yellow, a fine yellow waved submarginal line extending from near the apex almost to the anal angle; secondaries reddish-brown, yellowish at the base, and crossed beyond the middle by a narrow waved yellow line, the fringe yellow: head, collar, tegulæ, and thorax yellow, the abdomen reddish-brown, the antennæ brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* GUATEMALA, San Isidro 1600 feet (*Champion*).

One specimen.

8. *Syllythria* *exuvialis*.

*Rhodaria exuvialis*, Guen. Sp. gén. des Lép. viii. p. 172<sup>1</sup>; Walk. Cat. xvii. p. 317<sup>2</sup>.

*Botys exuvialis*, Leder. Wien. ent. Monats. vii. p. 368<sup>3</sup>.

*Botys eratalis*, Walk. Cat. xviii. p. 578<sup>4</sup>.

*Scopula ordinatalis*, Walk. Cat. xxxiv. p. 1465<sup>5</sup>.

*Hab.* MEXICO, Presidio (*Forrer*), Jalapa (*M. Trujillo*), Tierra Colorada in Guerrero, Cuernavaca in Morelos, Vera Cruz, Teapa (*H. H. Smith*); GUATEMALA, in the city (*Rodriguez*), Cahabon, San Juan, and San Gerónimo in Vera Paz, Dueñas, Zapote, San Isidro (*Champion*); HONDURAS<sup>5</sup>; COSTA RICA, Volcan de Irazu 6000 to 7000 feet, Rio Sucio (*Rogers*), Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA, Bogota; GUIANA, Cayenne<sup>1 2 3</sup>; JAMAICA<sup>4</sup>.

A very common and widely distributed insect in Tropical America, varying greatly in size and colour. *S. exuvialis* is closely allied to *S. phænicealis*, Hübn., from South-east Brazil; in fact, I think it will most likely prove to be a light form of that species.

### 9. *Syllythria phænicealis*.

*Hæmatia phænicealis*, Hübn. Zutr. Samml. exot. Schmett. i. p. 22, figg. 115, 116<sup>1</sup>.

*Rhodaria phænicealis*, Guen. Sp. gén. des Lép. viii. p. 173<sup>2</sup>; Walk. Cat. xvii. p. 315<sup>3</sup>.

*Hab.* NORTH AMERICA<sup>2</sup>, Florida<sup>1 3</sup>.—MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).—AMAZONS; BRAZIL<sup>2 3</sup>.

We have received a few specimens of this species from our region; these differ from Hübner's figure in having the markings a little less distinct.

### 10 *Syllythria insignitalis*.

*Rhodaria insignitalis*, Guen. Sp. gén. des Lép. viii. p. 173<sup>1</sup>; Walk. Cat. xvii. p. 318<sup>2</sup>.

*Botys insignitalis*, Leder. Wien. ent. Monats. vii. p. 368<sup>3</sup>.

*Asopia largalis*, Walk. Cat. xix. p. 938<sup>4</sup>.

*Hab.* HONDURAS (*Dyson*<sup>4</sup>).—VENEZUELA<sup>4</sup>; GUIANA, Cayenne<sup>1 2 3</sup>; BRAZIL<sup>3</sup>.

## HERBULA.

*Herbula*, Guenée, Sp. gén. des Lép. viii. p. 175 (1854); Walker, Cat. xvii. p. 320.

A widely distributed genus, inhabiting Europe, Asia Minor, North America, &c. The single species now added lives at a high altitude in Guatemala.

### 1. *Herbula prochytales*, sp. n. (Tab. LX. fig. 24.)

Primaries pale brown, darker along the outer margin, a pale yellow line crossing the wing from the costal margin near the apex to the middle of the inner margin; secondaries yellowish-hyaline, broadly bordered with brown from the apex to the anal angle; the fringe of both wings brown: head, antennæ, thorax, abdomen, and legs brown. Expanse 1 inch.

*Hab.* GUATEMALA, Totonicapam 8,500 to 10,500 feet (*Champion*).

## BOREOPHILA.

*Boreophila*, Guenée, Sp. gén. des Lép. p. 155 (1854); Walker, Cat. xvii. p. 301.

A genus of small extent, most of the species being European.



1. **Boreophila cereralis.** (Tab. LX. fig. 25.)

*Eurycreon (Spilodes) cereralis*, Zell. Verh. zool.-bot. Ges. Wien, xxii. p. 517<sup>1</sup>.

*Hab.* NORTH AMERICA, Colorado, Texas<sup>1</sup>.—MEXICO, near Durango city (*Becker*), Orizaba (*H. J. Elwes*).

Three specimens, agreeing with others from Colorado in my own collection.

## OPSIBOTYS.

*Opsibotys*, Warren, Ann. & Mag. Nat. Hist. (6) vi. p. 474 (1890).

1. **Opsibotys thalesalis.**

*Botys thalesalis*, Walk. Cat. xviii. p. 599<sup>1</sup>.

*Hab.* HONDURAS (*Dyson*<sup>1</sup>).

The type in the National Collection is all I have seen of this species.

## HYALORISTA.

*Hyalorista*, Warren, Ann. & Mag. Nat. Hist. (6) ix. p. 299 (1892).

This genus is very closely allied to *Syllythria*, Hübn., if, indeed, it is distinct therefrom. Mr. Warren gives *Rhodaria tæniolalis*, Guen., a Tropical-American insect, as the type.

1. **Hyalorista tæniolalis.**

*Rhodaria tæniolalis*, Guen. Sp. gén. des Léop. viii. p. 172<sup>1</sup>; Walk. Cat. xvii. p. 317<sup>2</sup>.

*Botys tæniolalis*, Leder. Wien. ent. Monats. vii. p. 367<sup>3</sup>.

*Hab.* MEXICO, Orizaba (*F. D. G.*), Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); HONDURAS, Ruatan I. (*Gaumer*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—GUIANA, Cayenne<sup>1 2 3</sup>; AMAZONS; BRAZIL<sup>1 2 3</sup>; ANTILLES, Dominica.

A common and very widely distributed species in Tropical America. Amongst the long series of specimens before me, those from Mexico and Rio Janeiro are more brightly coloured than any from the intermediate localities.

2. **Hyalorista syphaxalis.**

*Botys syphaxalis*, Walk. Cat. xviii. p. 604<sup>1</sup>.

*Botys syphacalis*, Leder. Wien. ent. Monats. vii. p. 367<sup>2</sup>.

*Rhodaria directalis*, Walk. Cat. xxxiv. p. 1283<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); HONDURAS (*Dyson*<sup>1</sup>); PANAMA, Obispo (*Salvin, in mus. D.*).—VENEZUELA<sup>2</sup>; BRAZIL<sup>3</sup>, Rio Janeiro.

The few Central-American specimens received vary considerably in colour and size.

### 3. *Hyalorista limasalis*.

*Scopula* (?) *limasalis*, Walk. Cat. xxxiv. p. 1464<sup>1</sup>.

*Hab.* HONDURAS, Limas<sup>1</sup>.

The two specimens of this species in the National Museum are in very poor condition.

### 4. *Hyalorista deidamialis*, sp. n. (Tab. LX. fig. 27.)

*Male.* Primaries brownish-yellow, with the outer margin from the apex to the anal angle broadly bordered with dark brown, a fine waved brown line crossing the wing beyond the middle, and a second line close to the base, a small brown spot in the cell; secondaries semihyaline-yellowish-white, broadly bordered from the apex to the anal angle with dark brown: head, antennæ, thorax, and abdomen brown.—*Female.* Very similar to the male. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Orizaba (*F. D. G.*), Jalapa (*M. Trujillo*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

Several specimens. One from the Volcan de Chiriqui is figured.

## ISOCENTRIS.

*Isocentris*, Meyrick, Trans. Ent. Soc. Lond. 1887, p. 232; 1890, p. 448.

### 1. *Isocentris xanthialis*.

*Botys xanthialis*, Guen. Sp. gén. des Lép. viii. p. 343<sup>1</sup>; Walk. Cat. xviii. p. 569<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 371<sup>3</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*Schaus*); GUATEMALA, in the city (*Rodriguez, in mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*; *Arcé, in mus. D.*).—COLOMBIA; ECUADOR; CUBA<sup>1 2 3</sup>.

I have seen five specimens of this species from our region; those from Ecuador in my own collection are darker in colour. Dr. Staudinger's example is labelled with the MS. name of *Botys incalis*, Guen.

## CONDYLORRHIZA.

*Condylorrhiza*, Lederer, Wien. ent. Monats. vii. p. 393 (1863).

The type of this genus is *Botys illutalis*, Guen. (= *Botyodes vestigialis*, Guen.), a widely distributed Tropical-American insect.

### 1. *Condylorrhiza vestigialis*.

*Botyodes vestigialis*, Guen. Sp. gén. des Lép. viii. p. 321<sup>1</sup>; Walk. Cat. xviii. p. 551<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 394<sup>3</sup>.

*Botys illutalis*, Guen. Sp. gén. des Lép. viii. p. 333<sup>4</sup>; Walk. Cat. xviii. p. 591<sup>5</sup>.

*Condylorrhiza illutalis*, Leder. Wien. ent. Monats. vii. p. 393, t. 13. fig. 7<sup>6</sup>.

*Botys tritealis*, Walk. Cat. xviii. p. 597<sup>7</sup>.

*Botys mestoralis*, Walker, loc. cit. p. 729<sup>8</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet



(*Rogers*), Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—West coast of America (*Kellett & Wood*<sup>5 7</sup>); COLOMBIA<sup>1 2 3</sup>; AMAZONS, Pará<sup>5</sup>, Villa Nova<sup>5</sup>; BRAZIL<sup>4 6</sup>.

A common species at Jalapa. The locality for *D. mestoralis* was unknown to Walker<sup>8</sup>.

## 2. *Condylorrhiza sublutalis*, sp. n. (Tab. LX. fig. 26, ♂.)

*Male*. Primaries and secondaries semihyaline pale greyish-brown, both wings crossed by two indistinct zigzag darker lines—the first before the end of the cell, the second beyond it,—the marginal line also slightly darker, the fringe silvery-brown: head, antennæ, thorax, and abdomen yellowish-white, the legs white. —*Female*. Rather darker than the male, and with the lines more distinct. Expanse, ♂ 1½, ♀ 1¼ inch.

*Hab.* MEXICO, Presidio (*Forrer*), Cordova (*Rümeli*), Coatepec (*Brooks*), Jalapa (*W. Schaus, M. Trujillo*), Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*), Valladolid in Yucatan (*Gaumer*); GUATEMALA, Coban (*Conradt*), San Gerónimo, Cerro Zunil, San Isidro (*Champion*); COSTA RICA, Caché (*Rogers*), Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Arcé, in mus. D.*).—VENEZUELA; ECUADOR.

A common and widely distributed species in our region. Mr. Schaus informs me that he also has specimens of it from Rio Janeiro. We figure a male from Teapa.

## EPICORSIA.

*Epicorsia*, Hübner, Verz. bek. Schmett. p. 355 (1816).

### 1. *Epicorsia mellinalis*.

*Epicorsia mellinalis*, Hübn. Zutr. Samml. exot. Schmett. i. p. 24, figg. 137, 138<sup>1</sup>; Verz. bek. Schmett. p. 356<sup>2</sup>.

*Lonchodes mellinalis*, Guen. Sp. gén. des Léop. viii. p. 355<sup>3</sup>; Walk. Cat. xviii. p. 739<sup>4</sup>.

*Botys mellinalis*, Leder. Wien. ent. Monats. vii. p. 371<sup>5</sup>.

*Hab.* MEXICO, Mexico city (*Höge*), Cordova (*Rümeli*), Omealca, Orizaba (*M. Trujillo; Boucard, in mus. D.*), Jalapa (*Schaus*), Atoyac in Vera Cruz (*H. H. Smith*), Temax in North Yucatan (*Gaumer*); GUATEMALA, in the city (*Rodriguez, in mus. D.*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—BRAZIL<sup>1 3 4 5</sup>.

A common and widely distributed Tropical-American species, varying greatly in size and in the distinctness of the lines crossing the wings. The single example from Chiriqui in Dr. Staudinger's collection is about half the usual size.

### 2. *Epicorsia œdipodalis*.

*Botys œdipodalis*, Guen. Sp. gén. des Léop. viii. p. 336<sup>1</sup>; Walk. Cat. xviii. p. 569<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 371<sup>3</sup>; Snell. Tijdschr. voor Ent. xviii. p. 198<sup>4</sup>.

*Hab.* GUATEMALA, Cubilguitz and Teleman in Vera Paz, Pantaleon (*Champion*); HONDURAS (*Dyson*<sup>2</sup>); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—

COLOMBIA, R. Magdalena<sup>4</sup>; VENEZUELA<sup>2</sup>; ECUADOR; BRAZIL; ANTILLES, Jamaica<sup>2</sup>, Haiti<sup>1 2 3</sup>, San Domingo<sup>2</sup>.

This species may be at once distinguished from *E. mellinalis* by the absence of the submarginal line on the secondaries.

### 3. *Epicorsia butyroasa*.

*Botys butyroasa*, Butl. P. Z. S. 1878, p. 493<sup>1</sup>.

*Hab.* MEXICO, Cuernavaca in Morelos (*H. H. Smith*); GUATEMALA, in the city (*Rodriguez*), San Gerónimo (*Champion*); COSTA RICA, Candelaria Mts. (*Underwood*), Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—ANTILLES, Jamaica<sup>1</sup>.

This insect is allied to *E. ædipodalis*, but it has whiter wings.

### 4. *Epicorsia* (?) *prumnides*, sp. n. (Tab. LX. fig. 28, ♀.)

*Female*. Primaries pale yellowish-brown, shaded with dark brown, and crossed from the costal to the inner margin by four narrow waved dark brown lines—the first close to the base, the second just beyond it, the third at the end of the cell, and the fourth beyond a round brown spot in the cell,—the marginal line and fringe dark brown: secondaries pale yellow, crossed by two dark brown waved lines, the outer margin and anal angle clouded with dark brown, the fringe brown; the underside paler than above: head and thorax yellowish-brown, the abdomen yellow, the legs yellowish-white. Expanse  $1\frac{3}{10}$  inch.

*Hab.* MEXICO, Jalapa and Paso de San Juan in Vera Cruz (*Schaus*), Dos Arroyos in Guerrero (*H. H. Smith*).

## SCIORISTA.

*Sciorista*, Warren, Ann. & Mag. Nat. Hist. (6) vi. p. 475 (1890).

### 1. *Sciorista finitalis*.

*Botys finitalis*, Guen. Sp. gén. des Lép. viii. p. 335<sup>1</sup>; Walk. Cat. xviii. p. 592<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 370, t. 8. fig. 12<sup>3</sup>.

*Hab.* MEXICO, Atoyac in Vera Cruz (*H. H. Smith*), Omealca and Orizaba (*M. Trujillo*).—BRAZIL<sup>1 2 3</sup>, Rio Janeiro.

Mexican specimens are slightly paler than those from Rio Janeiro in my own collection.

### 2. *Sciorista oriolalis*.

*Samea oriolalis*, Guen. Sp. gén. des Lép. viii. p. 196<sup>1</sup>; Walk. Cat. xvii. p. 355<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, El Tumbador (*Champion*); COSTA RICA, Caché, Rio Sucio, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe*, in *mus. Staudinger*).—GUIANA, Cayenne<sup>1 2</sup>; ECUADOR.



### 3. *Sciorista togalis*.

*Botys togalis*, Leder. Wien. ent. Monats. vii. pp. 371, 463, t. 8. fig. 18<sup>1</sup>.

*Botys villicalis*, Möschl. Abhandl. Senck. naturf. Ges. xiv. p. 76 (1886)<sup>2</sup>.

*Hab.* MEXICO, Milpas in Durango 5900 feet (*Forrer*), Jalapa (*M. Trujillo*); GUATEMALA, Zapote (*Champion*); PANAMA, Chiriqui (*Trötsch*, in *mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—AMAZONS; ANTILLES, Cuba<sup>1</sup>, Jamaica<sup>2</sup>.

This species is closely allied to *S. oriolalis*, Guen. It has the primaries rather narrower, more pointed at the apex, and paler at the base.

### 4. *Sciorista campalis*.

*Botys campalis*, Guen. Sp. gén. des Lép. viii. p. 344<sup>1</sup>; Walk. Cat. xviii. p. 570<sup>2</sup>.

*Botys cubanalis*, Guen. loc. cit. p. 345<sup>3</sup>.

*Botys memmialis*, Walk. Cat. xviii. p. 731<sup>4</sup>.

*Hab.* MEXICO, Presidio (*Forrer*), Tierra Colorada in Guerrero, Teapa in Tabasco (*H. H. Smith*), Temax in North Yucatan (*Gaumer*); GUATEMALA, Panima, San Juan and San Gerónimo in Vera Paz, San Isidro, Cerro Zunil, El Reposo (*Champion*); SALVADOR (*mus. Staudinger*); COSTA RICA, Santa Clara Valley (*Zürcher*); PANAMA, Chiriqui (*Ribbe*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Panama city (*J. J. Walker*).—ANTILLES, Cuba<sup>3</sup>, Jamaica<sup>2</sup>, Haiti<sup>1</sup>, San Domingo<sup>2</sup>, Dominica.

A common and widely distributed species in our region. It varies considerably in colour and in the extent of the dark marginal border: in some specimens the border is quite dark and distinct, in others it is very pale, and in several it is entirely wanting. As a rule, the Mexican specimens are paler than those from further south. The locality for *B. memmialis* was unknown to Walker<sup>4</sup>.

## SAMEODES.

*Sameodes*, Snellen, Tijdschr. voor Ent. xxiii. p. 217 (1880).

### 1. *Sameodes nicæusalis*.

*Lepyrodes* (?) *nicæusalis*, Walk. Cat. xvii. p. 464<sup>1</sup>.

*Samea discessalis*, Walk. Cat. xxxiv. p. 1302<sup>2</sup>.

*Hab.* HONDURAS (*Dyson*<sup>1</sup>), Limas<sup>2</sup>.

The types of this species are in the National Collection. Mr. Warren has placed it in Snellen's genus, which was founded upon a species from Celebes.

## APHYTOCEROS.

*Aphytoceros*, Meyrick, Trans. Ent. Soc. Lond. 1884, p. 320.

### 1. *Aphytoceros lybialis*. (Tab. LX. fig. 29.)

*Botys lybialis*, Walk. Cat. xviii. p. 624<sup>1</sup>.

*Botys amatalis*, Walk. loc. cit. p. 625<sup>2</sup>.

*Botys capitalis*, Grote, Bull. U.S. Geol. & Geogr. Surv. vi. p. 272<sup>3</sup>.

*Hab.* NORTH AMERICA, Florida<sup>3</sup>.—MEXICO, Durango (*Forrer*), Orizaba (*Boucard, in mus. D.*), Jalapa (*Schaus, M. Trujillo*), Coatepec (*Brooks*), Cordova (*Rümelin*), Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Gerónimo, Panima, and Cahabon in Vera Paz, Coatepeque, Las Mercedes, San Isidro, Dueñas (*Champion*); HONDURAS (*Dyson*<sup>1</sup>); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*), Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—AMAZONS, Pará<sup>2</sup>.

A common, widely distributed, and very variable species in our region. A specimen from Jalapa is figured.

## 2. *Aphytoceros senahuensis*, sp. n. (Tab. LXI. fig. 1, ♀.)

*Female.* Primaries and secondaries cream-colour, the veins and fine lines crossing the wings from the costal to the inner margin all reddish-brown, the marginal line dark brown, the fringe cream-colour; the underside whitish, with the markings very faint: head and thorax reddish-brown, the abdomen yellowish-white, the legs white. Expanse  $1\frac{3}{4}$  inch.

*Hab.* GUATEMALA, Senahu in Vera Paz (*Champion*).

One specimen.

## 3. *Aphytoceros ostrealis*.

*Botys ostrealis*, Guen. Sp. gén. des Lép. viii. p. 327<sup>1</sup>; Walk. Cat. xviii. p. 572<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 371<sup>3</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—VENEZUELA<sup>2</sup>; BRAZIL<sup>1 3</sup>, S. Paulo, Rio Janeiro; ANTILLES<sup>3</sup>, Jamaica<sup>2</sup>, San Domingo<sup>2</sup>.

A single specimen from Chiriqui in Dr. Staudinger's collection is no doubt referable to this somewhat variable species. It differs from South-American examples in having the reddish-brown bands narrower.

## AZOCHIS.

*Azochis*, Walker, Cat. xviii. p. 542 (1859).

### 1. *Azochis gripusalis*.

*Azochis gripusalis*, Walk. Cat. xviii. p. 542<sup>1</sup>.

*Botys saniosalis*, Leder. Wien. ent. Monats. vii. pp. 371, 466, t. 9. fig. 11<sup>2</sup>.

*Hab.* MEXICO, Presidio (*Forrer*), Amula in Guerrero 6000 feet (*H. H. Smith*), Jalapa (*Schaus, M. Trujillo*); GUATEMALA, Las Mercedes 3000 feet (*Champion*); COSTA RICA, Santa Clara Valley (*Zürcher*); PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—ECUADOR; AMAZONS, Ega<sup>1</sup>; BRAZIL<sup>2</sup>.

Varies considerably in colour, Central-American specimens being paler than those from South America.



## 2. *Azochis amplalis*.

*Botys amplalis*, Guen. Sp. gén. des Lép. viii. p. 330, Delt. et Pyral. t. 10. fig. 4<sup>1</sup>; Walk. Cat. xviii. p. 590<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 371<sup>3</sup>.

*Hab.* PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).—VENEZUELA<sup>2</sup>; GUIANA, Surinam<sup>1 2 3</sup>, Cayenne<sup>1 2 3</sup>.

One specimen from Chiriqui, a female, very similar to Guenée's figure.

## TERASTIA.

*Terastia*, Guenée, Sp. gén. des Lép. viii. p. 211 (1854); Walker, Cat. xvii. p. 379; Lederer, Wien. ent. Monats. vii. p. 415.

The type of this genus is *T. meticulosalis*, Guen., from Haiti, an insect which is fairly common in our region.

### 1. *Terastia meticulosalis*. (Tab. LXI. fig. 2.)

*Terastia meticulosalis*, Guen. Sp. gén. des Lép. viii. p. 212<sup>1</sup>; Walk. Cat. xvii. p. 379<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 416<sup>3</sup>.

*Hab.* MEXICO, Mexico city (*Höge*), Jalapa (*Schaus*, *M. Trujillo*), Atoyac in Vera Cruz (*H. H. Smith*), Coatepec, Rinconada (*Schaus*), Orizaba (*Boucard*, *in mus. D.*); GUATEMALA, in the city (*Rodriguez*); HONDURAS (*Dyson*<sup>2</sup>); COSTA RICA, Candelaria Mts. (*Underwood*).—ANTILLES, Haiti<sup>1 3</sup>, San Domingo<sup>2</sup>.

This species appears to be confined to Central America and the Antilles. A specimen from Mexico city is figured.

## MEGASTES.

*Megastes*, Guenée, Sp. gén. des Lép. viii. p. 375 (1854); Walker, Cat. xviii. p. 762; Lederer, Wien. ent. Monats. vii. p. 411.

Guenée described this genus upon a single species from Brazil, which ranges northwards to Costa Rica. A very fine new form is now added from our region.

### 1. *Megastes grandalis*.

*Megastes grandalis*, Guen. Sp. gén. des Lép. viii. p. 376, Delt. et Pyral. t. 5. fig. 6<sup>1</sup>; Walk. Cat. xviii. p. 762<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 412<sup>3</sup>.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Taboga I. (*J. J. Walker*).—VENEZUELA<sup>2</sup>; BRAZIL<sup>1 2 3</sup>.

Two specimens, very similar to Guenée's figure.

### 2. *Megastes praxiteles*, sp. n. (Tab. LXI. figg. 3, ♂; 4, ♀.)

*Male.* Primaries and secondaries hyaline-white; the primaries with the base dark greyish-brown, a small spot in the cell and one just below it pale yellowish, edged with dark brown, the middle part of the costal margin chalk-white, a large almost square mark at the end of the cell, from which two dark greyish-brown lines cross the wing to the inner margin, a double submarginal dark brown waved line

extending from near the apex to the anal angle, the marginal line dark brown, the fringe pure white; the secondaries crossed about the middle by a dark greyish-brown line, which is widest on the inner margin, above which a fine dark brown line extends partly across the wing to the base, two fine sub-marginal waved brown lines extending from near the apex to the anal angle, the marginal line dark brown, the fringe white; the underside of both wings white, with all the markings very faint: head, collar, front of thorax, and legs white; the antennæ dark brown; the abdomen with the base and part of the upperside dark greyish-brown, the three anal segments and the underside white.—*Female*. Very similar to the male, but considerably larger and with the abdomen more marked with white. Expanse ♂ 2, ♀ 2½ inches.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Coatepec (*Schaus*). Cuernavaca in Morelos, La Venta in Guerrero (*H. H. Smith*); GUATEMALA, Las Mercedes (*Champion*).

This species is apparently rare, though widely distributed in Mexico. Mr. Schaus captured only one specimen, which is very much paler than any of the others before me. *M. praxiteles* is allied to *M. grandalis*, Guen., but very different in the colour and markings. We figure a male from Cuernavaca, and a female from La Venta.

#### PALIGA.

*Paliga*, Moore, Lep. Ceylon, iii. p. 350 (1886).

##### 1. *Paliga inclusalis*.

*Scopula* (?) *inclusalis*, Walk. Cat. xxxiv. p. 1464<sup>1</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); HONDURAS, Limas<sup>1</sup>.

One specimen from Teapa, very similar to Walker's type in the National Museum.

#### EURYCREON.

*Eurycreon*, Snellen, Tijdschr. voor Ent. xviii. p. 209 (1875).

##### 1. *Eurycreon fuscocilialis*.

*Eurycreon fuscocilialis*, Snell. Tijdschr. voor Ent. xviii. p. 210, t. 13. fig. 1<sup>1</sup>.

*Hab.* BRITISH HONDURAS, Corosal (*Roe, in mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Volcan de Chiriqui (*in mus. Staudinger*<sup>1</sup>).

Of this species we have a fairly good series, showing a considerable amount of variation in colour and in the distinctness of the markings. One of the specimens in Dr. Staudinger's collection is very dark.

#### NOMOPHILA.

*Nomophila*, Hübner, Verz. bek. Schmett. p. 368 (1816); Lederer, Wien. ent. Monats. vii. p. 379 (1863).

*Stenopteryx*, Guenée, Sp. gén. des Léop. viii. p. 413 (1854); Walker, Cat. xix. p. 811.

This genus contains only one species, which is common all over the globe.



1. *Nomophila noctuella*.

*Tinea noctuella*, Wien. Verz. p. 136<sup>1</sup>.

*Nomophila noctuella*, Grote, Check-list of N. Amer. Moths, p. 53 (1882)<sup>2</sup>.

*Pyralis hybridalis*, Hübn. Europ. Schmett. vi. Pyral. t. 17. fig. 114<sup>3</sup>.

*Nomophila hybridalis*, Hübn. Verz. bek. Schmett. p. 368<sup>4</sup>; Leder. Wien. ent. Monats. vii. p. 379<sup>5</sup>.

*Botys hybridalis*, Treitschke, Schmett. Europ. vii. p. 109<sup>6</sup>; Duponch. Hist. Nat. Lép. Fr., Noct. v. 2, p. 153, t. 220. fig. 3<sup>7</sup>.

*Stenopteryx hybridalis*, Herr.-Schäff. Europ. Schmett. iv. p. 42<sup>8</sup>; Guen. Sp. gén. des Lép. viii. p. 414<sup>9</sup>; Walk. Cat. xix. p. 812<sup>10</sup>.

*Hab.* NORTH AMERICA<sup>2</sup>, California, Colorado, Florida, Arizona.—MEXICO, Durango city (*Becker*), Mexico city, Patzcuaro (*F. D. G.*), Jalapa (*M. Trujillo*); GUATEMALA, Santa Cruz, Cerro Zunil, Dueñas (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).—SOUTH AMERICA to Brazil<sup>9</sup> and Chili<sup>10</sup>; EUROPE<sup>1 3-10</sup>; ASIA<sup>5</sup>; AFRICA<sup>5</sup>; AUSTRALIA.

This cosmopolitan insect does not seem to have been previously recorded from Central America. It is not necessary to give a full list of localities here.

## SPARAGMIA.

*Sparagmia*, Guenée, Sp. gén. des Lép. viii. p. 216 (1854); Walker, Cat. xvii. p. 384; Lederer, Wien. ent. Monats. vii. p. 414.

1. *Sparagmia gigantalis*.

*Sparagmia gigantalis*, Guen. Sp. gén. des Lép. viii. p. 216, Delt. et Pyral. t. 6. fig. 10<sup>1</sup>; Walk. Cat. xvii. p. 385<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 414<sup>3</sup>.

*Hab.* MEXICO, Coatepec (*Schaus*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Arcé, in mus. D.; Ribbe, in mus. Staudinger*), Bugaba (*Champion*).—COLOMBIA; ECUADOR; AMAZONS, Villa Nova<sup>2</sup>; BRAZIL<sup>1 3</sup>; PARAGUAY; ANTILLES, San Domingo<sup>2</sup>.

A common insect in Tropical South America.

## ATHEROPODA.

*Megaphysa*, Guenée, Sp. gén. des Lép. viii. p. 212 (1854) (part.).

*Atheropoda*, Lederer, Wien. ent. Monats. vii. p. 413 (1863).

1. *Atheropoda majoralis*.

*Megaphysa majoralis*, Guén. Sp. gén. des Lép. viii. p. 215<sup>1</sup>; Walk. Cat. xvii. p. 382<sup>2</sup>.

*Atheropoda majoralis*, Leder. Wien. ent. Monats. vii. p. 413, t. 3. fig. 9<sup>3</sup>.

*Megaphysa sibilalis*, Guen. Sp. gén. des Lép. viii. p. 215<sup>4</sup>; Walk. Cat. xvii. p. 382<sup>5</sup>.

*Atheropoda sibilalis*, Leder. Wien. ent. Monats. vii. p. 413<sup>6</sup>.

*Hab.* MEXICO, Rinconada in Vera Cruz (*Schaus*); GUATEMALA, San Gerónimo  
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(*Champion*), Coban (*Conradt*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*; *Arcé, in mus. D.*).—ECUADOR; BRAZIL <sup>1-6</sup>.

Five specimens, agreeing with a large series from Ecuador in my own collection.

2. ***Atheropoda remusalis***. (Tab. LXI. fig. 5.)

*Botys remusalis*, Walk. Cat. xviii. p. 597 <sup>1</sup>.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).—COLOMBIA, Bogota <sup>1</sup>.

We have received a single specimen of this species from Costa Rica. I have examined the type in the Oxford Museum.

3. ***Atheropoda corylalis***.

*Megaphysa corylalis*, Guen. Sp. gén. des Lép. viii. p. 214 <sup>1</sup>; Walk. Cat. p. 381 <sup>2</sup>.

*Atheropoda corylalis*, Leder. Wien. ent. Monats. vii. p. 413 <sup>3</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—COLOMBIA <sup>1 2 3</sup>.

One specimen. It is very like *A. majoralis*, but has the lines on the primaries in a different position, that on the secondaries extending straight across the wing but not reaching the outer margin.

4. ***Atheropoda pontealis***, sp. n. (Tab. LXI. fig. 6.)

Primaries and secondaries pale yellow; the primaries crossed from the costal to the inner margin by two narrow brown lines—the first straight, near the base, the second curved, beyond the middle,—the wing on the outer side of the second line shaded with pink, a small spot in the cell and one at the end of it, the veins near the outer margin, and the fringe brown; the secondaries crossed about the middle by a dark brown line, the base semihyaline; the underside very much as above: head, thorax, abdomen, and legs dark yellow, the antennæ brown.—*Female*. Very similar to the male. Expanse 2 inches.

*Hab.* MEXICO, Rinconada in Vera Cruz (*Schaus*); GUATEMALA, Panajachel 5000 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Arcé, in mus. D.*).—ECUADOR.

Of this species I have seen four specimens only from our region, but from Ecuador I have a very large series, varying slightly in colour. *A. pontealis* bears a great resemblance to *Sparagmia gigantalis*, Guen., from which it may be at once distinguished by the very different shape of the primaries. A specimen from Panajachel is figured.

POLYGRAMMODES.

*Polygrammodes*, Guenée, Sp. gén. des Lép. viii. p. 318 (1854); Walker, Cat. xviii. p. 547.

1. ***Polygrammodes sanguinalis***, sp. n. (Tab. LXI. fig. 7.)

Primaries and secondaries white, crossed from the costal to the inner margin by a series of reddish-brown zigzag lines, which become broader near the base, the fringe white; the underside white, with a few reddish-brown spots on both wings: head white, with a small red spot on each side; the palpi black above, white beneath; the antennæ pale brown; the collar white; the tegulæ white at the base, pale



reddish-brown at the tip; the thorax pale reddish-brown; the abdomen pale brown above, with a row of red spots on each side, white beneath; the legs white. Expanse  $1\frac{5}{16}$  inch.

*Hab.* MEXICO, Rinconada in Vera Cruz (*Schaus*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Caché (*Van Patten*), Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

Six specimens, some of which are more heavily marked than others. The insect is allied to *P. runicalis*, Guen., from Brazil, the type of the genus. We figure an example from Guatemala city.

#### PACHYNOA.

*Pachynoa*, Lederer, Wien. ent. Monats. vii. p. 391 (1863).

##### 1. *Pachynoa hercules*.

*Botys hercules*, Feld. & Rogenh. Reise der Novara, Lep. t. 135. fig. 49<sup>1</sup>.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Arcé, in mus. D.; Ribbe; Trötsch, in mus. Staudinger*), Bugaba, Volcan de Chiriqui (*Champion*).—COLOMBIA, Bogota<sup>1</sup>.

Varies in colour from reddish-yellow to quite pale yellow.

##### 2. *Pachynoa ponderalis*.

*Botys ponderalis*, Guen. Sp. gén. des Lép. viii. p. 328, Delt. et Pyral. t. 8. fig. 10<sup>1</sup>; Walk. Cat. xviii. p. 561<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 371<sup>3</sup>.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*), Jalapa, Cuesta de Misantla (*M. Trujillo*); GUATEMALA (*Conradt, in mus. Staudinger*), Cerro Zunil, Las Mercedes, Volcan de Atitlan, San Gerónimo (*Champion*); HONDURAS (*Wittkugel, in mus. Staudinger*).—BRAZIL<sup>1 3</sup>.

Varies in size and colour—from pale yellow to chrome-yellow; most of the Guatemalan specimens are darker than those from Mexico.

In Guenée's figure the markings on the primaries are more distinct than in any of the examples before me. Walker<sup>2</sup> gives “? North America” as a locality.

##### 3. *Pachynoa cræsus*, sp. n. (Tab. LXI. fig. 8.)

*Male.* Primaries and secondaries chrome-yellow, shaded with blackish-grey scales at the base and across the middle, crossed from the costal to the inner margin by two curved dark grey lines—the first near the base, the second beyond the middle; the primaries with the cell, a rather faint submarginal zigzag line extending from the costal margin near the apex to the inner margin slightly above the anal angle, a small round spot at the base of the cell, and an elongate spot at the end of it, hyaline-white; the secondaries with a hyaline-white spot at the end of the cell; the fringe greyish-yellow; the underside pale yellowish-white, with the lines less distinct: head, antennæ, thorax, and abdomen brownish-chrome-yellow, the underside of the latter and the legs yellowish-white. Expanse  $1\frac{3}{4}$  inch.

*Hab.* GUATEMALA, Las Mercedes 3000 feet (*Champion*).

One specimen. Allied to *P. hercules* (Feld. & Rogenh.), from which it may be at once distinguished by the hyaline spots in the cell of the fore wing.

4. ***Pachynoa flavidalis*.** (Tab. LXI. figg. 9, ♂ ; 10, ♀.)

*Botys flavidalis*, Guen. Sp. gén. des Lép. viii. p. 329<sup>1</sup>; Walk. Cat. xviii. p. 562<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 371<sup>3</sup>.

*Botys cinctipetalis*, Walk. Cat. xxxiv. p. 1391<sup>4</sup>; Grote, Check-list of N. Amer. Moths, p. 53<sup>5</sup>.

*Botys lacoalis*, Walk. Cat. xviii. p. 733<sup>6</sup>.

*Hab.* NORTH AMERICA<sup>1 2 3 4 5</sup>.—MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*), Rinconada, Paso de San Juan (*Schaus*); GUATEMALA, Chiacam in Vera Paz, Las Mercedes 3000 feet, San Isidro 1600 feet (*Champion*); COSTA RICA, Candelaria Mts. (*Underwood*).—S.E. BRAZIL, Rio Janeiro.

A variable species, both in colour and in the distinctness of the markings; some specimens are dirty white and others dark yellow. The largest specimens I have seen are those from Guatemala. The specimens from the Candelaria Mountains are all very pale. We figure a male from Chiacam and a female from Las Mercedes. No locality is given by Walker<sup>6</sup> for *Botys lacoalis*.

5. ***Pachynoa cyclades*, sp. n.** (Tab. LXI. figg. 12, ♂ ; 13, ♀.)

*Male*. Primaries fawn-colour, black at the base, clouded with blackish-grey from the middle almost to the outer margin, with a narrow waved black line, edged with greyish-white on the inner side, crossing the wing before the middle, a submarginal zigzag greyish-black line, edged with white on the outer side, extending from the costal margin near the apex to the inner margin near the anal angle, and a round white spot in the cell and an elongate spot at the end of it, both edged with black, the fringe fawn-colour; secondaries pearly-white, the marginal line fawn-colour, the fringe white: head in front, the antennæ, and palpi brownish-fawn-colour; the collar, thorax, and abdomen greyish-black, the underside of the latter and the legs white.—*Female*. Primaries very similar to those of the male, but rather paler; the secondaries shaded with yellow, with a black spot at the end of the cell and a waved submarginal black line extending from the costal margin almost to the anal angle, the marginal line spotted with black. Expanse, ♂ ♀, 2 inches.

*Hab.* MEXICO, near Durango city (*Becker*), Mexico city (*Höge*).

Three specimens. This fine species is very distinct from any other known to me. We figure a male from Mexico city and a female from Durango city.

## ANOMOSTICTIS.

*Diastictis*, Hübner, Verz. bek. Schmett. p. 355 (nec p. 288) (1816).

*Anomostictis*, Warren, Ann. & Mag. Nat. Hist. (6) ix. p. 434 (1892).

1. ***Anomostictis fracturalis*.**

*Botis fracturalis*, Zell. Verh. zool.-bot. Ges. Wien, xxii. p. 509, t. 3. fig. 16<sup>1</sup>; Grote, Bull. U.S. Geol. & Geogr. Surv. iv. p. 677<sup>2</sup>.

*Hab.* NORTH AMERICA<sup>2</sup>, Texas<sup>1</sup>.—MEXICO, Northern Sonora (*Morrison*), Amula in Guerrero 6000 feet (*H. H. Smith*), Jalisco (*Schumann*).



## ACHARANA.

*Acharana*, Moore, Lep. Ceylon, iii. p. 285 (1885).

1. *Acharana phæopteralis*.

*Botys phæopteralis*, Guen. Sp. gén. des Léop. viii. p. 349<sup>1</sup>; Walk. Cat. xviii. p. 612<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 372<sup>3</sup>.

*Botys vestalis*, Walk. Cat. xviii. p. 579<sup>4</sup>.

*Botys plebejalis*, Leder. Wien. ent. Monats. vii. pp. 373, 469, t. 10. fig. 8<sup>5</sup>.

*Hab.* HONDURAS (*Dyson*<sup>4</sup>).—SOUTH AMERICA<sup>1 2 3</sup>, Venezuela<sup>5</sup>, Rio Janeiro<sup>2 4</sup>; ANTILLES, Jamaica<sup>4</sup>.

## TRISCHISTOGNATHA.

*Trischistognatha*, Warren, Ann. & Mag. Nat. Hist. (6) ix. p. 429 (1892).

1. *Trischistognatha palindialis*.

*Spilodes palindialis*, Guen. Sp. gén. des Léop. viii. p. 380<sup>1</sup>; Walk. Cat. xviii. p. 772<sup>2</sup>.

*Hab.* MEXICO, Rinconada in Vera Cruz (*Schaus*).—BRAZIL<sup>1 2</sup>.

One specimen, identified by Mr. Schaus.

## PACHYZANCLA.

*Pachyzancla*, Meyrick, Trans. Ent. Soc. Lond. 1884, p. 315; 1887, p. 228.

1. *Pachyzancla detritalis*.

*Botys detritalis*, Guen. Sp. gén. des Léop. viii. p. 347<sup>1</sup>; Walk. Cat. xviii. p. 572<sup>2</sup>.

*Botys lycialis*, Walk. loc. cit. p. 572<sup>3</sup>.

*Botys philealis*, Walk. loc. cit. p. 596<sup>4</sup>.

*Hab.* MEXICO, Northern Sonora (*Morrison*), Cuernavaca in Morelos, Acaguizotla, Dos Arroyos, and Chilpancingo in Guerrero, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*), Jalisco (*Schumann*); GUATEMALA, San Gerónimo, Volcan de Atitlan (*Champion*); HONDURAS<sup>2</sup>; COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui (*Champion*).—COLOMBIA<sup>1 2</sup>; VENEZUELA<sup>4</sup>; GUIANA<sup>1 2</sup>; AMAZONS, Villa Nova<sup>2</sup>; BRAZIL<sup>1 2</sup>; ANTILLES, Jamaica<sup>3</sup>, San Domingo<sup>2 3</sup>.

A common and widely distributed species in Tropical America, varying greatly in size and to some extent in colour. We have received a large series of specimens from our region.

2. *Pachyzancla cynoalis*, sp. n. (Tab. LXI. fig. 11, ♂.)

*Male*. Primaries and secondaries pale semihyaline-yellow; the primaries crossed by two fine darker lines—the first near the base, the second beyond the cell,—and with an indistinct submarginal line, the fringe dark yellow; the secondaries crossed from the costal to the inner margin by two faint lines—the first beyond the middle, the second submarginal,—the fringe dark yellow: head, antennæ, thorax, and abdomen

pale yellow, the legs yellow.—*Female*. Very similar to the male, but rather larger and darker. Expanse, ♂ 1, ♀ 1½ inch.

*Hab.* MEXICO, Cuernavaca in Morelos (*H. H. Smith*); GUATEMALA, San Gerónimo (*Champion*); COSTA RICA, Caché (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

A widely distributed species in our region, but nowhere common. We figure a specimen from the Volcan de Chiriqui.

### 3. *Pachyzancla grisealis*.

? *Botys grisealis*, Snell. Tijdschr. voor Ent. xviii. p. 198, t. 11. fig. 8<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Rinconada in Vera Cruz (*Schaus*), Orizaba (*F. D. G.*); GUATEMALA, San Gerónimo (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—? COLOMBIA<sup>1</sup>.

A common species throughout our region, not varying to any extent. The exact locality is not mentioned by Snellen.

### 4. *Pachyzancla* (?) *silicalis*.

*Botys silicalis*, Guen. Sp. gén. des Léop. viii. p. 349<sup>1</sup>; Walk. Cat. xviii. p. 612<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 375, t. 11. fig. 5<sup>3</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—GUIANA, Cayenne<sup>1 2 3</sup>; BRAZIL<sup>1 2 3</sup>.

One specimen, very similar to Lederer's figure.

## ZUNACETHA.

*Zunacetha*, Walker, Cat. xxvii. p. 133 (1863).

Walker included a single species from Honduras in this genus, and placed it in his family Galleridæ. I now add two others from our region.

### 1. *Zunacetha bipartita*.

*Zunacetha bipartita*, Walk. Cat. xxvii. p. 134<sup>1</sup>.

*Mieza nervosa*, Feld. & Rogenh. Reise der Novara, Lep. t. 139. fig. 43<sup>2</sup>.

*Hab.* MEXICO, Atoyac in Vera Cruz (*H. H. Smith*); GUATEMALA, San Juan and San Gerónimo in Vera Paz (*Champion*); HONDURAS (*Dyson*<sup>1</sup>), Corosal (*Roe, in mus. D.*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—COLOMBIA, Bogota<sup>2</sup>.

I have not seen a specimen of this insect from south of Panama.

### 2. *Zunacetha angulifera*, sp. n. (Tab. LXI. fig. 14.)

*Male*. Primaries and secondaries hyaline-white; the primaries crossed near the apex by a narrow brownish line, which almost reaches the anal angle and then turns inwards along the inner margin; the secondaries



with a narrow V-shaped brownish line below the middle, which does not touch either margin; the fringe white: head, antennæ, thorax, abdomen, and legs white, the collar yellow. Expanse  $1\frac{1}{2}$  inch.

*Hab.* GUATEMALA, Teleman in Vera Paz (*Champion*).

One specimen.

### 3. *Zunacetha bugabensis*, sp. n. (Tab. LXI. fig. 15.)

Primaries white, with all the veins from the middle to the outer margin black, two narrow black lines in the form of an inverted V extending across the wing from the inner margin; secondaries white, broadly bordered with black on the costal margin at the apex and on the outer and inner margins; the fringe greyish-white: head and palpi chrome-yellow, the antennæ black; the thorax and abdomen white, with a greyish-black line down the middle, the last three abdominal segments also greyish-black.—*Female*. Very similar to the male. Expanse  $1\frac{4}{10}$  inch.

*Hab.* PANAMA, Bugaba 1000 feet (*Champion*).

We have received a few specimens only of this species. It is allied to *Z. bipartita*, Walk.

## SALBIA.

*Salbia*, Guenée, Sp. gén. des Lép. viii. p. 198 (1854); Walker, Cat. xvii. p. 357; Lederer, Wien. ent. Monats. vii. p. 380.

### 1. *Salbia cassidalis*.

*Salbia cassidalis*, Guen. Sp. gén. des Lép. viii. p. 199<sup>1</sup>; Walk. Cat. xvii. p. 359<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 381<sup>3</sup>.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*), Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—ECUADOR; BRAZIL<sup>1 2 3</sup>.

We have a fair series of this species from Costa Rica.

### 2. *Salbia cognatalis*.

*Salbia cognatalis*, Snell. Tijdschr. voor Ent. xviii. p. 215, t. 12. figg. 9, 10<sup>1</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—COLOMBIA<sup>1</sup>.

Central-American specimens agree well with Snellen's figure.

### 3. *Salbia xiphialis*. (Tab. LXI. fig. 16.)

*Botys xiphialis*, Walk. Cat. xviii. p. 594<sup>1</sup>.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*).—SOUTH-EAST BRAZIL, Rio Janeiro<sup>1</sup>.

One male, which I have compared with Walker's type in the National Museum.

### 4. *Salbia serratilinealis*.

*Botys serratilinealis*, Leder. Wien. ent. Monats. vii. pp. 375, 472, t. 11. fig. 2<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—VENEZUELA<sup>1</sup>; ECUADOR.

One specimen from Chiriqui, differing from others from Ecuador in my own collection in being a little paler.

5. **Salbia lauralis.** (Tab. LXI. fig. 17, ♀.)

*Salbia lauralis*, Walk. Cat. xvii. p. 358<sup>1</sup>.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*). — COLOMBIA; VENEZUELA<sup>1</sup>; ECUADOR; AMAZONS, Ega<sup>1</sup>; ANTILLES, San Domingo<sup>1</sup>, Dominica.

We have received a few specimens of this widely distributed species from Costa Rica, none of which are in good condition. A female from Chiriqui in Dr. Staudinger's collection is figured.

SAROTHRONOTA.

*Sarothronota*, Lederer, Wien. ent. Monats. vii. p. 394 (1863).

1. **Sarothronota flegia.**

*Phalæna Pyralis flegia*, Cram. Pap. Exot. ii. p. 66, t. 140. fig. D<sup>1</sup>.

*Pyralis flegialis*, Poey, Cent. Léop. Cuba, 1<sup>ère</sup> Décade, fig. (1832)<sup>2</sup>.

*Margarodes flegialis*, Guen. Sp. gén. des Léop. viii. p. 310<sup>3</sup>.

*Margaronia flegialis*, Walk. Cat. xviii. p. 520<sup>4</sup>.

*Sarothronota flegia*, Leder. Wien. ent. Monats. vii. p. 394, t. 13. fig. 9<sup>5</sup>.

*Margaronia virginialis*, Hübn. Verz. bek. Schmett. p. 358<sup>6</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo, Höge*), Rinconada and Paso de San Juan in Vera Cruz (*Schaus*), Cuesta de Misantla, Omealca (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*), Coatepec (*Brooks*), Chilpancingo in Guerrero (*H. H. Smith*), Mexico city (*Höge*), Valladolid in Yucatan (*Gaumer*); BRITISH HONDURAS, Belize (*Sir A. Moloney, in mus. D.*), Corosal (*Roe, in mus. D.*); GUATEMALA, in the city (*Rodriguez*); HONDURAS (*Dyson*<sup>4</sup>); PANAMA, David, Bugaba (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*). — GUIANA, Surinam<sup>1</sup>; ANTILLES, Cuba<sup>2 3 5</sup>, Jamaica<sup>4</sup>, San Domingo<sup>4</sup>, St. Thomas<sup>4</sup>.

This is one of the commonest species of Pyralidæ in Central America. Specimens from Cuba in my own collection are quite similar, except in size. In other respects, the insect does not show the slightest variation.

2. **Sarothronota (?) citrinalis**, sp. n. (Tab. LXI. fig. 18.)

Primaries and secondaries uniformly dark citron-yellow: head, thorax, and abdomen citron-yellow, the latter whitish beneath; the antennæ yellow, the legs black. Expanse 1 $\frac{3}{4}$  inch.

*Hab.* MEXICO, Presidio (*Forrer*), Dos Arroyos in Guerrero (*H. H. Smith*), Bolaños in Jalisco (*Richardson*).

A few specimens. We figure one from Dos Arroyos.



## HOTERODES.

*Hoterodes*, Guenée, Sp. gén. des Lép. viii. p. 310 (1854); Lederer, Wien. ent. Monats. vii. p. 394.

1. *Hoterodes ausonia*.

*Phalæna Pyralis ausonia*, Cram. Pap. Exot. ii. p. 66, t. 140. fig. C<sup>1</sup>.

*Hoterodes ausonialis*, Guen. Sp. gén. des Lép. viii. p. 311, Delt. et Pyral. t. 4. fig. 9<sup>2</sup>; Walk. Cat. xviii. p. 535<sup>3</sup>; Leder. Wien. ent. Monats. vii. p. 395<sup>4</sup>.

*Margaronia canastalis*, Hübn. Verz. bek. Schmett. p. 358<sup>5</sup>.

*Hab.* MEXICO, Coatepec (*Schaus*), Atoyac in Vera Cruz, Dos Arroyos and Tierra Colorada in Guerrero, Teapa in Tabasco (*H. H. Smith*), Valladolid and Temax in Yucatan (*Gaumer*); GUATEMALA, Cahabon, San Juan, Panima, and San Gerónimo in Vera Paz, Las Mercedes, San Isidro (*Champion*); HONDURAS (*Dyson*<sup>3</sup>); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Arcé*, in *mus. D.*; *Ribbe*, in *mus. Staudinger*), Bugaba, Volcan de Chiriqui (*Champion*).—COLOMBIA<sup>2 4</sup>; VENEZUELA<sup>3</sup>; GUIANA, Surinam<sup>1 2 3</sup>, Cayenne<sup>2 3</sup>, Essequibo River; AMAZONS<sup>3</sup>; BRAZIL<sup>2 4</sup>; ANTILLES, San Domingo<sup>3</sup>.

This species does not show much variation. Specimens from Porto Real, South-east Brazil, in my own collection, are larger and slightly paler than any of those from Central America; some others from the Essequibo River, sent by Whitely, are very small.

## ERILUSA.

*Erilusa*, Walker, Cat. xxxiv. p. 1375 (1865).

The species of this genus bear a great resemblance to the Dioplinæ. Five are known to me from Central America.

1. *Erilusa dioploides*.

*Erilusa dioploides*, Walk. Cat. xxxiv. p. 1377<sup>1</sup>; Butl. Ill. Lep. Het. i. p. 62, t. 20. fig. 2<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, in the city (*Rodriguez*, in *mus. D.*), Cerro Zunil 4000 feet (*Champion*); PANAMA, Chiriqui (*Ribbe*, in *mus. Staudinger*).—VENEZUELA; ECUADOR; AMAZONS<sup>2</sup>, Pará<sup>1 2</sup>.

Mexican specimens are considerably darker than those from Ecuador in my own collection. *E. radialis*, Feld. & Rogenh., also from the Amazons, is a closely allied form, but may be at once distinguished from it by the yellow head and antennæ.

2. *Erilusa mimalis*.

*Erilusa mimalis*, Feld. & Rogenh. Reise der Novara, Lep. t. 136. fig. 33<sup>1</sup>.

*Hab.* GUATEMALA (*Salvin*<sup>1</sup>).

This species is only known to me by Felder and Rogenhofer's figure.

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3. ***Erilusa cœlivitta*.** (Tab. LXI. fig. 19, ♂.)

*Erilusa cœlivitta*, Walk. Cat. xxxiv. p. 1377<sup>1</sup>.

*Hab.* MEXICO (*Boucard, in mus. D.*); PANAMA, Chiriqui (*Ribbe; Trötsch, in mus. Staudinger*), Bugaba (*Champion*).—AMAZONS, Pará<sup>1</sup>.

Five specimens, showing no variation. We figure an example from Bugaba. The female is rather larger than the male, and it has the hyaline markings broader.

4. ***Erilusa croceiceps*.** (Tab. LXI. fig. 20, ♂.)

*Erilusa croceiceps*, Walk. Cat. xxxiv. p. 1375<sup>1</sup>; Feld. Reise der Novara, Lep. t. 136. fig. 31 (♀)<sup>2</sup>; Butl. Ill. Lep. Het. i. p. 62, t. 20. fig. 4 (♀)<sup>3</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet, David (*Champion*).—AMAZONS<sup>2</sup>, Pará<sup>1</sup>, Ega<sup>13</sup>.

I have seen three specimens of this species from the southern part of our region. We figure a male from the Volcan de Chiriqui.

5. ***Erilusa purpuralis***, sp. n. (Tab. LXI. fig. 21, ♀.)

*Female.* Primaries and secondaries uniformly dark glossy purplish-brown, the inner margin of the secondaries and the fringe greyish-black; the underside paler than above: head and collar orange, the antennæ brown, the thorax, abdomen, and legs greyish-black. Expanse 1½ inch.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*).

One specimen. This species resembles *Hoterodes gilippusalis*, Walk., from the Amazons, from which it may be at once distinguished by the yellow head and collar.

## ACRIDURA.

*Acridura*, Butler, Ann. & Mag. Nat. Hist. (4) xv. p. 398 (1875); Trans. Ent. Soc. Lond. 1878, p. 122.

*Phryctena*, Oberthür, Études d'Ent. vi. p. 114 (1881).

This genus was founded by Mr. Butler upon two species from Espiritu Santo, both of which range northwards to the Mexican State of Vera Cruz. He first referred it to the family Arctiidæ (Zygænoïd type), but subsequently to the Ægeriidæ. M. Oberthür referred his genus *Phryctena* to the Pyralidæ, to which family I have very little doubt it really belongs. *Acridura* appears to me to be nearly allied to *Erilusa*, Walk. Three additional species are here referred to the genus, one with some doubt.

1. ***Acridura gryllina*.**

*Acridura gryllina*, Butl. Ann. & Mag. Nat. Hist. (4) xv. p. 398<sup>1</sup>; Trans. Ent. Soc. Lond. 1878, p. 125, t. 5. fig. 6<sup>2</sup>.

*Phryctena glaucopidalis*, Oberth. Études d'Ent. vi. p. 114, t. 20. fig. 4 (♂)<sup>3</sup>.

*Hab.* MEXICO, Cordova (*Sallé*<sup>3</sup>), Atoyac in Vera Cruz (*H. H. Smith*); GUATEMALA, San Gerónimo (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), David, Volcan



de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA; ECUADOR; BRAZIL, Espiritu Santo<sup>1</sup>; PARAGUAY.

Of this species I have seen eighteen males, which do not show any variation. The female I believe to be unknown.

2. ***Acridura metallica***. (Tab. LXI. fig. 22, ♂.)

*Acridura metallica*, Butl. Ann. & Mag. Nat. Hist. (4) xv. p. 399; t. 5. fig. 5 (antenna) (♀)<sup>1</sup>.

*Hab.* MEXICO, Rinconada in Vera Cruz (*Schaus*); GUATEMALA, Coban in Vera Paz (*Conradt*).—BRAZIL, Espiritu Santo<sup>1</sup>.

Mr. Butler described the female of this species. The two specimens received from our region are, I believe, males. The one from Coban is figured.

3. ***Acridura prochyta***, sp. n. (Tab. LXI. fig. 23, ♀.)

*Female*. Primaries black, with a small hyaline dot near the base, the base with some metallic-green scales, the fringe blackish-brown; secondaries hyaline, the veins and the outer margin black: head, thorax, and abdomen metallic-green, the collar and a spot on each side of the base of the thorax orange-yellow, the antennæ black; the legs greenish-black, the hind tarsi partly white. Expanse  $1\frac{3}{10}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

One specimen. Not allied to any species known to me.

4. ***Acridura dædala***, sp. n. (Tab. LXI. fig. 24, ♂.)

*Male*. Primaries and secondaries semihyaline-glossy-purplish-black, the primaries shot with dark metallic-blue close to the base: head, collar, tegulæ, and thorax metallic green, the latter with a dense patch of white scales on the underside in front; the antennæ, abdomen, and legs black. Expanse  $1\frac{1}{10}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

One specimen.

5. ***Acridura* (?) *hadriana***, sp. n. (Tab. LXI. fig. 25.)

*Male*. Primaries and secondaries very dark brown; the primaries with the fringe brown, white at the anal angle; the secondaries with a narrow hyaline streak on the costal margin which extends from the base almost to the anal angle, a small hyaline-white spot at the end of the cell, the fringe partly white: head and antennæ black; the thorax black above, white beneath; the abdomen black, with the anus yellow, the underside banded with white; the legs black, the hind tarsi banded with white.—*Female*. Very similar to the male. Expanse, ♂ ♀,  $1\frac{1}{10}$  inch.

*Hab.* MEXICO, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); PANAMA, Chiriqui (*Arcé, in mus. D.*; *Trötsch, in mus. Staudinger*).

Two males and two females. A male from Teapa is figured.

MARGARONIA.

*Margaronia*, Hübner, Verz. bek. Schmett. p. 358 (1816).

1. ***Margaronia quadristigmalis***.

*Margarodes quadristigmalis*, Guen. Sp. gén. des Léop. viii. p. 304<sup>1</sup> (nec Walk.).

*Margaronia isoscelalis*, Walk. Cat. xviii. p. 521<sup>2</sup> (nec Guen.).

*Hab.* NORTH AMERICA <sup>1</sup>.—MEXICO, Jalapa (*M. Trujillo, Schaus*), Atoyac in Vera Cruz (*Schumann*), Cordova (*Rümelin*), Chilpancingo in Guerrero 4600 feet (*H. H. Smith*); GUATEMALA, San Gerónimo, Sinanja, and Cubilguitz in Vera Paz, El Tumbador (*Champion*); HONDURAS (*Mus. Brit.*); COSTA RICA, Candelaria Mts. (*Underwood*).—WEST COAST OF AMERICA (*Kellett & Wood* <sup>2</sup>); ECUADOR; AMAZONS, Villa Nova <sup>2</sup>; BRAZIL, Rio Janeiro; ANTILLES, Dominica.

A common species in Central America. It varies a good deal in size. The Costa Rican specimens are smaller than those from Mexico and Guatemala.

## 2. *Margaronia isoscelalis*.

*Margarodes isoscelalis*, Guen. Sp. gén. des Léop. viii. p. 304 <sup>1</sup>; Leder. Wien. ent. Monats. vii. p. 398 <sup>2</sup>.

*Margaronia eribotalis*, Walk. Cat. xviii. p. 524 <sup>3</sup>.

*Hab.* HONDURAS (*Dyson* <sup>3</sup>).—BRAZIL <sup>1 2</sup>; ANTILLES, St. Thomas <sup>2</sup>.

There are specimens of this species in the National Museum.

## 3. *Margaronia innotata*, sp. n. (Tab. LXI. fig. 26.)

Primaries and secondaries silky-hyaline-white; the primaries edged with golden-yellow along the costal margin, a small black dot at the end of the cell, the marginal line with black points, the fringe white; the secondaries with a fine marginal black line: head, antennæ, thorax, abdomen, and legs white, the anal tuft brownish-black. Expanse 1 inch.

*Hab.* MEXICO, Presidio (*Forrer*), Jalapa (*M. Trujillo*), Temax in North Yucatan (*Gaumer*); HONDURAS, San Pedro (*Whitely, in mus. D.*); NICARAGUA, Matagalpa (*Richardson*); COSTA RICA, Candelaria Mts. (*Underwood*), Rio Sucio (*Rogers*); PANAMA, Chiriqui (*Ribbe*).

This species is allied to *M. quadristigmatis*, Guen., from which it may be distinguished by its slightly shorter and broader wings, and by the absence of the small black dots on the costal margin of the primaries. The sexes are very similar.

## PACHYARCHES.

*Pachyarches*, Lederer, Wien. ent. Monats. vii. p. 398 (1863).

## 1. *Pachyarches lustralis*.

*Margarodes lustralis*, Guen. Sp. gén. des Léop. viii. p. 306, Delt. et Pyral. t. 4. figg. 8, 9 (head) <sup>1</sup>.

*Margaronia lustralis*, Walk. Cat. xviii. p. 520 <sup>2</sup>.

*Pachyarches lustralis*, Leder. Wien. ent. Monats. vii. p. 398 <sup>3</sup>.

*Hab.* MEXICO, Jalapa (*Schaus, M. Trujillo*), Rinconada and Paso de San Juan in Vera Paz (*Schaus*), Coatepec (*Brooks*), Mexico city (*Höge*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet, Taboga I. (*Champion*).—ECUADOR; BRAZIL; ANTILLES, Haiti <sup>1 2 3</sup>.

This is a common insect in Tropical America. The large series of specimens before



me do not show any variation. We have received numerous examples from Mexico, but from Guatemala I have seen one only.

## 2. *Pachyarches imitalis*.

*Margarodes imitalis*, Guen. Sp. gén. des Lép. viii. p. 306 <sup>1</sup>.

*Margaronia imitalis*, Walk. Cat. xviii. p. 520 <sup>2</sup>.

*Pachyarches imitalis*, Leder. Wien. ent. Monats. vii. p. 398 <sup>3</sup>.

*Hab.* MEXICO, Cordova (*Rümeli*), Jalapa (*M. Trujillo*), Paso de San Juan in Vera Cruz (*Schaus*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—WEST COAST OF AMERICA (*Kellett & Wood* <sup>2</sup>); COLOMBIA; VENEZUELA <sup>2</sup>; ECUADOR; BRAZIL, Rio Janeiro <sup>2</sup>; ANTILLES, Haiti <sup>1 3</sup>, San Domingo <sup>2</sup>.

This species is allied to the preceding, but may be distinguished from it by its smaller size and paler colour. We have a fair series of specimens, which vary slightly, those from Ecuador in my own collection being rather darker than any I have seen from our region.

## EUDIOPTIS.

*Eudioptis*, Hübner, Verz. bek. Schmett. p. 359 (1816).

*Phakellura*, Westwood, Introd. Mod. Class. Ins. ii. p. 401 (1840); Guenée, Sp. gén. des Lép. viii. p. 294.

*Phacellura*, Lederer, Wien. ent. Monats. vii. p. 400 (1863).

This genus is of considerable extent, and the species are very widely distributed over the globe.

## 1. *Eudioptis hyalinata*.

*Phalena Geometra hyalinata*, Linn. Syst. Nat. 12th edit. i. 2, p. 874 (1767) <sup>1</sup>.

*Pyralis hyalinata*, Pocy, Cent. Lép. Cuba, 2<sup>e</sup> Décade, fig. (1832) <sup>2</sup>.

*Phakellura hyalinatalis*, Guen. Sp. gén. des Lép. viii. p. 296 <sup>3</sup>; Walk. Cat. xviii. p. 510 <sup>4</sup>.

*Phacellura hyalinatalis*, Leder. Wien. ent. Monats. vii. p. 400 <sup>5</sup>.

*Phakellura hyalinata*, Snell. Tijdschr. voor Ent. xviii. p. 234 <sup>6</sup>.

*Eudioptis hyalinata*, Grote, Check-list of N. Am. Moths, p. 54 <sup>7</sup>.

*Phalena Pyralis marginalis*, Cram. Pap. Exot. iv. p. 160, t. 371. fig. D <sup>8</sup>; Stoll, ibid., Suppl. v. p. 110, t. 22. figg. 9 (larva), 9 κ (cocoon) <sup>9</sup>.

*Phacellura marginalis*, Leder. Wien. ent. Monats. vii. p. 401 <sup>10</sup>.

*Pyralis lucernalis*, Hübn. Europ. Schmett. vi. Pyral. t. 17. fig. 108 <sup>11</sup>.

*Eudioptis lucernalis*, Hübn. Verz. bek. Schmett. p. 359 <sup>12</sup>.

*Hab.* NORTH AMERICA <sup>3 7</sup>.—MEXICO (*Boucard, in mus. D.*), Presidio, Durango (*Forrer*), Paso de San Juan and Rinconada in Vera Cruz (*Schaus*), Cordova (*Rümeli*), Jalapa (*M. Trujillo*), Vera Cruz, Venta de Zopilote in Guerrero, Teapa in Tabasco (*H. H. Smith*), Temax in North Yucatan (*Gaumer*); BRITISH HONDURAS, San Pedro (*Whitely, in mus. D.*); GUATEMALA, San Gerónimo and Tamahu in Vera Paz, San Isidro, El Reposo (*Champion*); HONDURAS (*Dyson* <sup>4</sup>); COSTA RICA, Volcan de Irazu 6000 to

7000 feet (*Rogers*), Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—SOUTH AMERICA<sup>3 6 9</sup> to the Argentine Republic; BAHAMAS; ANTILLES, Jamaica<sup>4</sup>, Cuba<sup>2</sup>, Haiti<sup>3</sup>, San Domingo<sup>4</sup>, Dominica.

This common and widely distributed American species varies very little, except in size. Specimens from the Bahamas are small and have the dark margins of the wings slightly narrower than usual. From Mexico and Guatemala we have received a very large number of examples. The larva is stated to feed upon Cucurbitaceous plants; it, and the cocoon also, is figured by Stoll and Poey.

## 2. *Eudioptis lucidalis*.

*Eudioptis lucidalis*, Hübn. Zutr. Samml. exot. Schmett. ii. p. 24, figg. 331, 332<sup>1</sup>; Verz. bek. Schmett. p. 359<sup>2</sup>.

*Phakellura lucidalis*, Guen. Sp. gén. des Lép. viii. p. 298<sup>3</sup>; Walk. Cat. xviii. p. 512<sup>4</sup>.

*Hab.* MEXICO, Jalapa, Cuesta de Misantla (*M. Trujillo*), Paso de San Juan in Vera Cruz (*Schaus*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Cubilguitz and San Gerónimo in Vera Paz, San Isidro (*Champion*); NICARAGUA, Matagalpa (*Richardson*); COSTA RICA (*Van Patten, in mus. D.*), Volcan de Irazu 6000 to 7000 feet (*Rogers*), Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Arcé, in mus. D.*; *Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Panama city (*J. J. Walker*).—VENEZUELA; ECUADOR; GUIANA, Surinam<sup>1 3 4</sup>; AMAZONS; BRAZIL, Ceara; ANTILLES, Dominica.

Very similar to *E. hyalinata* (Linn.), but differing from it in the black abdomen, including the anal tuft, and in the slightly darker margins to the wings.

## 3. *Eudioptis gazorialis*.

*Phakellura gazorialis*, Guen. Sp. gén. des Lép. viii. p. 297<sup>1</sup>.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—BRAZIL, Rio Janeiro.—? JAVA<sup>1</sup>.

Walker in his Catalogue (xviii. p. 514) includes this species under *P. indica*, Saund., but I consider them to be distinct. The identification with *P. gazorialis* is given on Dr. Staudinger's authority. The locality quoted by Guenée<sup>1</sup> I believe to be incorrect.

## 4. *Eudioptis plumbidorsalis*.

*Phakellura plumbidorsalis*, Guen. Sp. gén. des Lép. viii. p. 298<sup>1</sup>; Walk. Cat. xviii. p. 512<sup>2</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—ECUADOR; GUIANA, Cayenne<sup>1 2</sup>.

In this species the dark borders of the wing are very wide. Specimens from Ecuador in my own collection are considerably smaller than those from Chiriqui.



### 5. *Eudioptis gigantalis*.

*Phakellura gigantalis*, Snell. Tijdschr. voor Ent. xviii. p. 234, t. 13. figg. 7, 8 (hind leg) <sup>1</sup>.

*Eudioptis hyalinata*, Warr. Trans. Ent. Soc. Lond. 1889, p. 265 <sup>2</sup> (nec Linn.).

*Hab.* MEXICO, Rinconada in Vera Cruz (*Schaus*); GUATEMALA, Coatepeque, El Reposo, Las Mercedes (*Champion*); COSTA RICA, Santa Clara Valley (*Zürcher*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—COLOMBIA <sup>1</sup>; ECUADOR; AMAZONS <sup>2</sup>.

We have received a few specimens of this species from Central America. From Ecuador I have a large series, which do not show any variation. None of the examples before me have the margins of the wings so red as shown in Snellen's figure. Central-American specimens are brighter in colour than those from South America.

### 6. *Eudioptis nitidalis*.

*Phalena Pyralis nitidalis*, Cram. Pap. Exot. iv. p. 160, t. 371. fig. F <sup>1</sup>; Stoll, *ibid.*, Suppl. v. p. 110, t. 22. figg. 10, 10 M, N, O (larva and pupa) <sup>2</sup>.

*Phakellura nitidalis*, Guen. Sp. gén. des Lép. viii. p. 299 <sup>3</sup>; Walk. Cat. xviii. p. 511 <sup>4</sup>.

*Phacellura nitidalis*, Leder. Wien. ent. Monats. vii. p. 401 <sup>5</sup>.

*Eudioptis nitidalis*, Grote, Check-list of N. Am. Moths, p. 54 <sup>6</sup>.

*Diaphania vitralis*, Hübn. Zutr. Samml. exot. Schmett. i. p. 20, figg. 101, 102 .

*Hab.* NORTH AMERICA <sup>6</sup>, Florida <sup>7</sup>.—MEXICO, Rinconada in Vera Cruz (*Schaus*), Coatepec (*Brooks*), Jalapa, Cuesta de Misantla (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*); GUATEMALA, Volcan de Atitlan, San Gerónimo (*Champion*), Guatemala city (*Rodriguez*); COSTA RICA, Volcan de Irazú 6000 to 7000 feet (*Rogers*), Candelaria Mts. (*Underwood*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).—COLOMBIA <sup>3</sup>, Bogota; ECUADOR; GUIANA, Surinam <sup>1</sup>, Cayenne <sup>3</sup>; AMAZONS, Pará <sup>4</sup>; BRAZIL <sup>3 5</sup>; ANTILLES, San Domingo <sup>4</sup>.

This species is not uncommon throughout Tropical America, but I have not seen a specimen from north of Mexico. It varies greatly in size, also in the shape of the yellow hyaline spot on the primaries.

### 7. *Eudioptis praxialis*, sp. n. (Tab. LXI. fig. 28.)

Primaries dark glossy-purplish-brown, with a large square hyaline yellowish spot below the cell extending to the inner margin; secondaries pale hyaline yellow, broadly bordered with purplish-brown, the inner margin of the border straight; the fringe purplish-brown: head, thorax, and abdomen blackish-brown above, white beneath; the antennæ blackish-brown, the legs yellowish-white. Expanse  $1\frac{8}{10}$  inch.

*Hab.* COSTA RICA, Santa Clara Valley 1200 feet (*Zürcher*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

Three specimens. This species is allied to *E. nitidalis* (Cram.), but it is a much larger insect, and easily distinguishable from it by the distinct border to the secondaries. We figure a male from Costa Rica.

### 8. *Eudioptis olealis*.

*Eudioptis olealis*, Feld. & Rogenh. Reise der Novara, Lep. t. 135. fig. 35<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*Schaus*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).—COLOMBIA, Bogota<sup>1</sup>; ECUADOR.

Mr. Schaus's specimen from Jalapa differs slightly from the others in having the spot on the primaries rather smaller and the band on the secondaries more elongated.

### 9. *Eudioptis cumalis*, sp. n. (Tab. LXI. fig. 27.)

Primaries and secondaries semihyaline-purplish-brown, crossed about the middle by a semihyaline pale yellow waved line: head, thorax, and abdomen purplish-brown above, white beneath; the antennæ brown, the legs whitish. Expanse  $1\frac{1}{4}$  inch.

*Hab.* COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).

One specimen. This insect is not closely allied to any described species.

### 10. *Eudioptis latilimbalis*.

*Phakellura latilimbalis*, Guen. Sp. gén. des Lép. viii. p. 296<sup>1</sup>; Walk. Cat. xviii. p. 511<sup>2</sup>; Snell. Tijdschr. voor Ent. xviii. p. 232<sup>3</sup>.

*Phacellura latilimbalis*, Leder. Wien. ent. Monats. vii. p. 400<sup>4</sup>.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*), Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe*, in mus. *Staudinger*; *Arcé*, in mus. *D.*).—COLOMBIA, Magdalena River<sup>3</sup>; ECUADOR; BRAZIL<sup>1 2</sup>.

Varies in the size of the hyaline spot on the primaries.

### 11. *Eudioptis damalis*, sp. n. (Tab. LXI. fig. 29.)

*Male.* Primaries and secondaries semihyaline-purplish-brown; the primaries with a very indistinct yellowish spot beyond the cell, the secondaries with the basal portion slightly yellowish; the fringe brown: head, thorax, and abdomen blackish-brown, the anal tuft black, the antennæ and legs pale brown. Expanse  $1\frac{1}{4}$  inch.

*Hab.* PANAMA, Chiriqui (*Ribbe*, in mus. *Staudinger*).

One specimen. Allied to *E. olealis*, Feld. & Rogenh., but very distinct.

### 12. *Eudioptis* —?

*Hab.* MEXICO, Presidio (*Forrer*).

A small species, apparently distinct, but not in sufficiently good condition for determination.

### 13. *Eudioptis arguta*.

*Phacellura arguta*, Leder. Wien. ent. Monats. vii. pp. 401, 478, t. 13. fig. 15<sup>1</sup>.

*Hab.* NORTH AMERICA<sup>1</sup>.—MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Pantaleon (*Champion*); COSTA RICA, Santa Clara Valley 1200 feet (*Zürcher*); PANAMA,



Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).  
—BRAZIL.

14. **Eudioptis exclusalis.** (Tab. LXI. fig. 30.)

*Phakellura exclusalis*, Walk. Cat. xxxiv. p. 1361<sup>1</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Arcé, in mus. D.*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA, Bogota<sup>1</sup>; ECUADOR.

The type of this species is now in my own collection. An example from the Volcan de Chiriqui is figured.

15. **Eudioptis fumosalis.**

*Phakellura fumosalis*, Guen. Sp. gén. des Lép. viii. p. 300<sup>1</sup>; Walk. Cat. xviii. p. 512<sup>2</sup>.

*Phacellura fumosalis*, Leder. Wien. ent. Monats. vii. p. 401<sup>3</sup>.

*Phacellura fimatis*, Leder. loc. cit. t. 13. fig. 16<sup>4</sup>.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*), Jalapa (*M. Trujillo, Schaus*); GUATEMALA (*Conradt, in mus. Staudinger*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet, Rio Sucio (*Rogers*).—VENEZUELA<sup>3</sup>; ECUADOR; ? BRAZIL<sup>2</sup>.

The specimens before me are paler than Lederer's figure, but I have little doubt that they belong to his species. The locality was unknown to Guenée<sup>1</sup>.

16. **Eudioptis satanalis** (?).

*Phakellura satanalis*, Snell. Tijdschr. voor Ent. xviii. p. 231, t. 13. fig. 6<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—COLOMBIA, Magdalena River<sup>1</sup>, Bogota.

One specimen from Chiriqui, very similar to others from Bogota in my own collection. None of these examples are so red as shown in Snellen's figure.

LYPOTIGRIS.

*Lypotigris*, Hübner, Verz. bek. Schmett. p. 361 (1816).

*Hyalitis*, Groupe I., Guenée, Sp. gén. des Lép. viii. p. 289 (1854).

The type of this genus is *Phalæna Pyralis reginalis*, Cram.; it is the only known species belonging to it.

1. **Lypotigris reginalis.**

*Phalæna Pyralis reginalis*, Cram. Pap. Exot. iv. p. 163, t. 372. fig. C<sup>1</sup>.

*Lypotigris reginalis*, Hübn. Verz. bek. Schmett. p. 361<sup>2</sup>.

*Hyalitis reginalis*, Guen. Sp. gén. des Lép. viii. p. 290<sup>3</sup>; Leder. Wien. ent. Monats. vii. p. 403<sup>4</sup>.

*Lypotigris reginalis*, Walk. Cat. xvii. p. 495<sup>5</sup>.

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2 hh

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*), Jalapa (*M. Trujillo, Schaus*), Cuesta de Misantla, Omealca (*M. Trujillo*); GUATEMALA, in the city (*Rodriguez*); HONDURAS (*Wittkugel, in mus. Staudinger*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Volcan de Chiriqui (*Champion*).—GUIANA, Surinam <sup>1 5</sup>, Cayenne <sup>3 4</sup>; ANTILLES, San Domingo <sup>5</sup>, Haiti.

This fine species is not uncommon in Eastern Mexico; from Guatemala we have received three specimens only. An example from Haiti in my own collection is much smaller than any of the others before me. The male is well figured by Cramer.

#### HYALITIS.

*Hyalitis*, Groupe II., Guenée, Sp. gén. des Léop. viii. p. 289 (1854); Lederer, Wien. ent. Monats. vii. p. 403 (part.).

##### 1. *Hyalitis bajulalis*.

*Hyalitis bajulalis*, Guen. Sp. gén. des Léop. viii. p. 291 <sup>1</sup>; Leder. Wien. ent. Monats. vii. p. 403 <sup>2</sup>.

*Lyptogris* (?) *bajulalis*, Walk. Cat. xvii. p. 495 <sup>3</sup>.

*Glyphodes* (?) *dermatalis*, Feld. & Rogenh. Reise der Novara, Lep. t. 136. fig. 23 <sup>4</sup>.

*Hab.* GUATEMALA, Volcan de Atitlan 2500 to 3500 feet, Zapote (*Champion*); COSTA RICA, Caché (*Rogers*), Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Arcé, in mus. D.*; *Trötsch, in mus. Staudinger*).—GUIANA <sup>4</sup>, Cayenne <sup>1 2 3</sup>; ECUADOR.

#### GLYPHODES.

*Glyphodes*, Guenée, Sp. gén. des Léop. viii. p. 292 (1854); Walker, Cat. xvii. p. 496; Lederer, Wien. ent. Monats. vii. p. 401.

##### 1. *Glyphodes sibillalis*.

*Glyphodes sibillalis*, Walk. Cat. xvii. p. 506 <sup>1</sup>; Leder. Wien. ent. Monats. vii. p. 402 <sup>2</sup>.

*Hab.* MEXICO, Jalisco (*Schumann*), Jalapa (*M. Trujillo*), Rinconada in Vera Cruz (*Schaus*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet, Rio Sucio (*Rogers*), Candelaria Mts. (*Underwood*).—COLOMBIA; VENEZUELA <sup>1 2</sup>; ECUADOR; AMAZONS, Ega <sup>1</sup>; BRAZIL; ANTILLES, San Domingo <sup>1</sup>, Dominica.

A common insect in Central America.

#### DICHOGAMA.

*Dichogama*, Lederer, Wien. ent. Monats. vii. p. 396 (1863).

This genus contains a single species, the sexes of which are very dissimilar.

##### 1. *Dichogama redtenbacheri*.

*Dichogama redtenbacheri*, Leder. Wien. ent. Monats. vii. p. 396, t. 13. figg. 10 (♂), 11 (♀) <sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*Schaus*).—PERU; ANTILLES, St. Thomas <sup>1</sup>.



A female captured by Mr. Schaus in Mexico is the only specimen I have seen of this species. It differs from Lederer's figure in having the apex of the secondaries not marked with black. Mr. Schaus informs me that he also possesses specimens from Peru, which are considerably larger than the Mexican example.

## CLINIODES.

*Cliniodes*, Guenée, Sp. gén. des Léop. viii. p. 300 (1854); Walker, Cat. xviii. p. 517; Lederer, Wien. ent. Monats. vii. p. 396.

*Idessa*, Walker, Cat. xix. p. 979 (1859).

1. *Cliniodes opalalis*. (Tab. LXII. fig. 1.)

*Cliniodes opalalis*, Guen. Sp. gén. des Léop. viii. p. 301<sup>1</sup>; Walk. Cat. xviii. p. 518<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 397<sup>3</sup>.

*Idessa pyrgionalis*, Walk. Cat. xix. p. 980<sup>4</sup>.

*Hab.* NORTH AMERICA<sup>1 2 3</sup>.—MEXICO, Vera Cruz (*Sallé*<sup>4</sup>), Jalapa (*M. Trujillo*), Atoyac in Vera Cruz (*Schumann*), Paso de San Juan in Vera Cruz (*Schaus*).—ANTILLES, Jamaica<sup>4</sup>.

I have seen four specimens of this species from Mexico; the sexes are very similar. An example from Atoyac is figured.

2. *Cliniodes cyllarusalis*, sp. n. (Tab. LXI. figg. 31, ♂; 32, ♀.)

*Male*. Primaries and secondaries pearly-white; the primaries with the costal and outer margins, and a row of small spots partly crossing the wing, pale brown, and with a brown spot at the end of the cell extending to the costal margin, the fringe brown; the secondaries with the marginal line brown, the fringe white; the underside very much as above: head and thorax white, the abdomen dark grey banded with white, the anal tuft blackish, the legs greyish-white.—*Female*. Very similar to the male; the primaries with two blackish-brown spots on the inner margin, the costal margin reddish-brown, and the row of spots rather more distinct; the secondaries with the marginal line almost white. Expanse, ♂  $1\frac{1}{10}$ , ♀  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Paso de San Juan and Rinconada in Vera Cruz (*coll. Schaus*); GUATEMALA, in the city (*Rodriguez*).

Three specimens. This species is allied to *C. opalalis*, Guen. We figure a male from Mexico, and a female from Guatemala city.

## CARBACA.

*Carbaca*, Walker, Cat. xxxiv. p. 1379 (1865).

The type of this genus is *C. decoralis*, Walk., from San Domingo. A second species is now added.

1. *Carbaca prognealis*, sp. n. (Tab. LXII. fig. 2.)

Primaries pearly-white, with a large yellow patch at the anal angle, extending partly along the inner margin, but not reaching the base, a series of four glossy-bluish-black bands extending across the wing from the

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costal margin as far as the yellow colour, and a small round black spot at the anal angle, the inner margin edged with black near the base, the fringe partly white and partly yellow; secondaries semihyaline pale yellowish-white, the fringe yellow: head, thorax, and legs white, the antennæ black; the abdomen yellowish-white, white at the base, the anal tuft brownish-yellow. Expanse  $1\frac{4}{5}$  inch.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*).—ECUADOR, Sarayacu (*Buckley*).

#### HYALEA.

*Hyalea*, Guenée, Sp. gén. des Lép. viii. p. 206 (1854); Walker, Cat. xvii. p. 375; Lederer, Wien. ent. Monats. vii. p. 434.

##### 1. *Hyalea delilalis*.

*Hyalea delilalis*, Walk. Cat. xvii. p. 376<sup>1</sup>.

*Botys atyriasis*, Feld. & Rogenh. Reise der Novara, Lep. t. 135. fig. 30<sup>2</sup>.

*Hab.* COSTA RICA (*Trötsch*, in *mus. Staudinger*).—COLOMBIA, Bogota; AMAZONS<sup>2</sup>, Ega<sup>1</sup>.

I have seen four specimens of this species, including one from Costa Rica in Dr. Staudinger's collection.

#### MECYNIA.

*Mecyna*, Guenée, Sp. gén. des Lép. viii. p. 406 (1854); Walker, Cat. xix. p. 804.

##### 1. *Mecyna deprivalis*.

*Mecyna deprivalis*, Walk. Cat. xix. p. 806<sup>1</sup>; Moore, Lep. Ceylon, iii. p. 352, t. 179. figg. 1, 1a (larva and pupa)<sup>2</sup>.

*Hab.* MEXICO (*Boucard*, in *mus. D.*), Durango city (*Becker*), Amula in Guerrero (*H. H. Smith*).—CEYLON<sup>1 2</sup>; INDIA.

Mexican specimens are similar to those from India. *M. deprivalis* varies in colour, and also in the extent of the black margin of the secondaries.

#### AGATHODES.

*Agathodes*, Guenée, Sp. gén. des Lép. viii. p. 207 (1854); Walker, Cat. xvii. p. 377.

*Stenurges*, Lederer, Wien. ent. Monats. vii. p. 416 (1863).

##### 1. *Agathodes monstrialis*. (Tab. LXII. fig. 5, ♂.)

*Agathodes monstrialis*, Guen. Sp. gén. des Lép. viii. p. 209<sup>1</sup>; Walk. Cat. xvii. p. 377<sup>2</sup>.

*Stenurges monstrialis*, Leder. Wien. ent. Monats. vii. p. 417<sup>3</sup>.

? *Agathodes designalis*, Guen. Sp. gén. des Lép. viii. p. 209<sup>4</sup>.

*Hab.* NORTH AMERICA<sup>1 3 4</sup>, United States<sup>2</sup>.—MEXICO, Jalapa, Cuesta de Misantla (*Höge*, *M. Trujillo*), Rinconada in Vera Cruz (*Schaus*); GUATEMALA, Dueñas (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*), Candelaria Mts. (*Underwood*).—COLOMBIA; ECUADOR; BRAZIL<sup>4</sup>; ANTILLES, San Domingo<sup>2</sup>.

A common species in Tropical America. The very large series before me dose not



show any variation of importance. Some specimens are more highly coloured than others, especially those from Ecuador. An example from Jalapa is figured.

### SYNCLERA.

*Synclera*, Lederer, Wien. ent. Monats. vii. p. 444 (1863).

#### 1. *Synclera traducalis*.

*Eudiotis traducalis*, Zell. Kongl. Sv. Vet.-Ak. Handl. 1852, p. 54<sup>1</sup>.

*Synclera traducalis*, Leder. Wien. ent. Monats. vii. p. 444<sup>2</sup>; Walk. Cat. xxxiv. p. 1367<sup>3</sup>; Moore, Lep. Ceylon, iii. p. 316, t. 182. fig. 9 (♀)<sup>4</sup>.

*Spilomela retinalis*, Leder. Wien. ent. Monats. i. p. 100<sup>5</sup>.

*Glyphodes univocalis*, Walk. Cat. xvii. p. 499<sup>6</sup>.

*Samea jarbusalis*, Walk. Cat. xvii. p. 352<sup>7</sup>.

*Zebronia* (?) *cottalis*, Walk. Cat. xix. p. 964<sup>8</sup>.

*Hab.* MEXICO, Jalapa (*Höge*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Gerónimo (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*), Candelaria Mts. (*Underwood*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).—ECUADOR; ANTILLES, San Domingo<sup>7 8</sup>.—SYRIA<sup>2 3 5</sup>; EAST INDIES<sup>2</sup>; CEYLON<sup>4 6</sup>; CAFFRARIA<sup>1 2 3</sup>.

I cannot separate the American specimens from the Indian ones, and the above names all refer to one very widely distributed species.

### AGROTERA.

*Agrotera*, Sehrank, Fauna Boica, ii. 2, p. 163 (1802); Walker, Cat. xvii. p. 386; Lederer, Wien. ent. Monats. vii. p. 439.

#### 1. *Agrotera preciosalis* (?).

*Leucinodes* (?) *preciosalis*, Mösehl. Verh. zool.-bot. Ges. Wien, 1881, p. 431, t. 18. fig. 38<sup>1</sup>.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*).—GUIANA, Paramaribo<sup>1</sup>.

Two specimens from Costa Rica are apparently referable to this species; they differ from Möschler's figure in having the bands on the primaries straighter.

#### 2. *Agrotera marucalis*, sp. n. (Tab. LXII. fig. 3, ♂.)

*Male.* Primaries and secondaries pale cream-colour, crossed from the costal to the inner margin by a series of dark brown waved lines, a large V-shaped brown mark on the inner margin of the secondaries, the marginal line dark brown: head, thorax, and abdomen cream-colour, each segment of the latter edged with dark brown.—*Female* very similar to the male. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

Numerous examples.

#### 3. *Agrotera calanticalis*, sp. n. (Tab. LXII. fig. 4.)

Primaries and secondaries pale yellow; the primaries crossed from the costal to the inner margin by three narrow curved brown bands—the first near the base, the second at the end of the cell, and the third

submarginal, the latter indistinct near the anal angle,—the marginal line brown, the fringe yellow; the secondaries crossed about the middle by a narrow brown line, which extends from the costal margin to the anal angle, a short brown line partly crossing the wing above the apex, the marginal line brown, the fringe yellow; the underside paler than above, and without the brown lines: head, thorax, and abdomen pale yellow, the legs yellowish-white, the antennæ pale brown. Expanse 1 inch.

*Hab.* COSTA RICA, Santa Clara Valley 1200 feet (*Zürcher*).

#### 4. *Agrotera darsanalis*, sp. n. (Tab. LXII. fig. 6.)

*Male.* Primaries and secondaries white, crossed from the costal to the inner margin with very fine brown lines—the first two near the base, the others beyond,—the primaries with a dark spot on the middle of the costal margin, the fringe white; the underside very much as above, but with the lines rather more distinct: head, thorax, abdomen, and legs white, the antennæ pale brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

The Chiriqui specimen is darker than the one from Jalapa; the latter is figured.

### PTERYGISUS.

*Isopteryx*, Guenée, Sp. gén. des Lép. viii. p. 227 (1854) (nomen præocc.); Lederer, Wien. ent. Monats. vii. p. 449.

*Physematia*, Meyrick, Trans. Ent. Soc. Lond. 1886, p. 257 (Oct.) (? nec Lederer).

*Pterygisus*, Butler, op. cit. p. 429 (Dec.).

#### 1. *Pterygisus* (?) *contractalis*.

*Pyratis* (?) *contractalis*, Walk. Cat. xxxiv. p. 1230<sup>1</sup>.

*Hab.* HONDURAS, Limas<sup>1</sup>.

#### 2. *Pterygisus fædalis*.

*Isopteryx fædalis*, Guen. Sp. gén. des Lép. viii. p. 228, Delt. et Pyral. t. 4. fig. 7<sup>1</sup>; Walk. Cat. xvii. p. 402<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 449<sup>3</sup>.

*Pterygisus fædalis*, Snell. Trans. Ent. Soc. Lond. 1890, p. 638<sup>4</sup>.

*Isopteryx tenellalis*, Guen. Sp. gén. des Lép. viii. p. 228<sup>5</sup>.

*Physematia epispila*, Meyr. Trans. Ent. Soc. Lond. 1886, p. 257<sup>6</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—SOUTH AMERICA, Cayenne<sup>5</sup>.—FIJI<sup>6</sup>; INDIA<sup>1 2 3</sup>.

One example from Chiriqui, identified by Dr. Staudinger. It closely resembles specimens from Darjeeling in my own collection. The synonymy is given on the authority of Snellen<sup>4</sup>.

#### 3. *Pterygisus appialis*, sp. n. (Tab. LXII. fig. 7.)

*Male.* Primaries and secondaries dusky white; the primaries crossed from the costal to the inner margin by five fine waved blackish-brown lines, the costal margin spotted with black, the outer margin from the apex to the anal angle broadly bordered with dark grey, the marginal line black, the fringe brown; the secondaries crossed by three dark waved lines, the apex dark grey; the underside paler than above, and with the lines very indistinct: head, thorax, abdomen, and legs white, the abdomen banded with black. Expanse  $\frac{2}{3}$  inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).



The specimen from Chiriqui in Dr. Staudinger's collection is labelled *Botys appialis*, Guen., but I cannot find that it has been described. We figure an example from Teapa.

4. ***Pterygisus rhealis***, sp. n. (Tab. LXII. fig. 9.)

*Male*. Primaries and secondaries creamy-white; the primaries with the base and the costal margin thickly spotted with black, and with four narrow black lines crossing from the costal to the inner margin—the first two joined on the inner margin, and the second and third connected by a fine line; the secondaries crossed by three black lines; the marginal line black; the fringe creamy-white: head, thorax, abdomen, and legs creamy-white, the abdomen banded with black. Expanse  $\frac{7}{10}$  inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

Four specimens.

LOXOSCIA.

*Loxoscia*, Warren, Ann. & Mag. Nat. Hist. (6) vi. p. 476 (1890).

Mr. Warren makes *Botys scinialis*, Walk., the type of this genus; *B. mnemusalis*, Walk., also belongs to it.

1. ***Loxoscia mnemusalis***.

*Botys mnemusalis*, Walk. Cat. xviii. p. 593<sup>1</sup>.

*Botys sanguiflualis*, Leder. Wien. ent. Monats. vii. pp. 374, 470, t. 11. fig. 1<sup>2</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—VENEZUELA<sup>2</sup>; GUIANA, Essequibo River; AMAZONS<sup>1</sup>.

Of this species I have seen one specimen from Chiriqui and two from South America. In Lederer's figure of *B. sanguiflualis* the wings are a little more heavily marked.

PANTOGRAPHA.

*Pantographa*, Lederer, Wien. ent. Monats. vii. p. 387, t. 3. fig. 3, t. 5. fig. 25 (1863).

1. ***Pantographa scripturalis***.

*Pionea scripturalis*, Guen. Sp. gén. des Lép. viii. p. 373, Delt. et Pyral. t. 4. fig. 11<sup>1</sup>; Walk. Cat. xviii. p. 757<sup>2</sup>.

*Pantographa scripturalis*, Leder. Wien. ent. Monats. vii. p. 388, t. 12. fig. 12<sup>3</sup>.

*Hab.* NORTH AMERICA, Canada<sup>2</sup>, United States<sup>2</sup>.—MEXICO, Paso de San Juan in Vera Cruz (*Schaus*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ECUADOR; AMAZONS, Pará<sup>2</sup>; BRAZIL<sup>13</sup>.

Guenée's figure of *P. scripturalis* is a very bad one, but I have no doubt that our insect belongs to the same species. We have received very few specimens from within our limits, but from Ecuador I have a large series, which show considerable variation in size and colour, and in the distinctness of the markings. The smaller examples by themselves might perhaps be considered distinct.

2. *Pantographa cybelealis*, sp. n. (Tab. LXII. fig. 8, ♂.)

*Male*. Similar to *P. scripturalis*, Guen., but of a darker yellow, with the base of the primaries dark brown, this colour extending from the costal to the inner margin, then partly across the wing to the outer margin, where it forms a wide dark border; secondaries dark yellow, crossed near the base from the costal to the inner margin by a wide dark brown band, which is followed by a large pale yellow mark and two zigzag waved brown lines; the marginal line of both wings black-brown, the fringe brown; the underside pale yellowish-white, the outer margin of the primaries shaded with brown: head, antennæ, and thorax dark brown; the abdomen yellow above, shaded with brown on each side, yellowish-white beneath; the legs yellowish-white.—*Female*. Very similar to the male, but with the secondaries considerably darker. Expanse  $1\frac{6}{10}$  inch.

*Hab*. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ECUADOR.

Three males and one female. Allied to *P. scripturalis*, Guen., but differing from it in the dark base of the primaries.

3. *Pantographa suffusalis*, sp. n. (Tab. LXII. fig. 10, ♂.)

*Male*. Primaries and secondaries pale yellowish-white, marked very much as in *P. scripturalis*, Guen., but with the brown shading very pale; the underside pale yellowish-white, with the markings very indistinct: head, thorax, and abdomen pale yellowish-white. Expanse 1 inch.

*Hab*. MEXICO, Teapa in Tabasco (*H. H. Smith*); COSTA RICA, Candelaria Mts. (*Underwood*).

I have seen several specimens of this species. We have received two only; the one from Teapa is figured.

4. *Pantographa pharaxalis*, sp. n. (Tab. LXII. fig. 12, ♂.)

*Male*. Primaries and secondaries cream-colour, semihyaline, each crossed from the costal to the inner margin by a series of fine zigzag waved pale brown lines, the costal margin and apex of the primaries slightly yellowish, the marginal line of both wings dark brown, the fringe cream-colour; the underside with very faint markings: head, thorax, and abdomen cream-coloured, the anal segments of the latter marked with black, the legs white. Expanse  $1\frac{1}{10}$  inch.

*Hab*. COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

Four specimens, one only in good condition.

5. *Pantographa idmonalis*, sp. n. (Tab. LXII. fig. 11, ♂.)

*Male*. Primaries and secondaries very pale yellowish-fawn-colour; the primaries crossed from the costal to the inner margin by three narrow waved brown lines, a spot in the cell and a double spot at the end of it also brown, a zigzag submarginal curved pale line extending from the costal to the inner margin, and then continued across the secondaries to the anal angle; the secondaries crossed by several indistinct lines; the marginal line of both wings and the fringe dark brown; the underside yellowish-white: head, thorax, and abdomen pale yellowish-fawn-colour, the anus black, the legs yellowish-white, the antennæ pale brown.—*Female*. Very similar to the male. Expanse  $1\frac{1}{2}$  inch.

*Hab*. MEXICO, Cuernavaca in Morelos (*H. H. Smith*).

One pair. The male is figured.

6. *Pantographa gorgonalis*, sp. n. (Tab. LXII. fig. 13.)

Primaries yellowish-fawn-colour, crossed by three irregular bands of semihyaline pearly-white spots—the first near the base, the second about the middle, the third beyond the cell,—which are edged on the outer side



with brown, the fringe yellowish-white; secondaries pearly hyaline-white, the outer margin shaded with yellowish-fawn-colour, a spot at the end of the cell and a waved band below it crossing from the costal to the inner margin blackish-brown, the fringe yellowish-white; the underside yellowish-white, almost without markings: head and antennæ yellow; the collar, thorax, and legs white; the abdomen yellow, banded with white on the first three segments. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Dos Arroyos in Guerrero 1000 feet (*H. H. Smith*).

Two specimens, apparently both females.

### 7. *Pantographa orsonalis*, sp. n. (Tab. LXII. fig. 14.)

*Male.* Primaries and secondaries pale greyish-brown; the primaries with the costal margin from the base almost to the apex edged with chrome-yellow, and crossed from the costal to the inner margin by four waved dark brown lines, with a round spot at the end of the cell, an almost square spot below it, and two elongated spots on the costal margin near the apex white, the marginal line dark brown, edged with a fine yellow line on the outer side, the fringe brown; the secondaries with a dark brown spot at the end of the cell, some distance below which a dark line crosses the wing from the costal to the inner margin, the marginal line dark brown, edged with a fine yellow line on the outer side, the fringe brown; the underside pearly-white, the dark lines of spots more distinct than above: head, antennæ, thorax, and abdomen pale greyish-brown, the legs yellowish-white. Expanse  $1\frac{1}{2}$  inch.

*Hab.* COSTA RICA (*Gabb, in mus. D.*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 3000 feet (*Champion*).

Three specimens. We figure the one from the Volcan de Chiriqui. The example from Costa Rica is considerably darker than either of the others.

## ASCIODES.

*Asciodes*, Guenée, Sp. gén. des Lép. viii. p. 374 (1854); Lederer, Wien. ent. Monats. vii. p. 411.

### 1. *Asciodes anormalis*.

*Botys anormalis*, Guen. Sp. gén. des Lép. viii. p. 352<sup>1</sup>; Walk. Cat. xviii. p. 619<sup>2</sup>.

*Captobasis anormalis*, Leder. Wien. ent. Monats. vii. p. 429<sup>3</sup>.

*Botys helcitalis*, Walk. Cat. xviii. p. 574<sup>4</sup>.

*Botys orphnealis*, Walk. loc. cit. p. 736<sup>5</sup>.

*Botys dracusalis*, Walk. Cat. xix. p. 983<sup>6</sup>.

*Hab.* HONDURAS (*Miller*<sup>6</sup>).—GUIANA, Cayenne<sup>1 3</sup>; BRAZIL, Rio Janeiro<sup>2</sup>; ANTILLES, JAMAICA<sup>4</sup>, San Domingo<sup>4</sup>.

No locality is given by Walker<sup>5</sup> for *Botys orphnealis*.

## SATHRIA.

*Sathria*, Lederer, Wien. ent. Monats. vii. p. 411 (1863).

### 1. *Sathria internitalis*.

*Asciodes internitalis*, Guen. Sp. gén. des Lép. viii. p. 375<sup>1</sup>; Walk. Cat. xviii. p. 761<sup>2</sup>.

*Sathria stercoralis*, Leder. Wien. ent. Monats. vii. p. 411, t. 15. fig. 4<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).—ANTILLES, Cuba<sup>3</sup>, Haiti<sup>1 2</sup>, Dominica.

Two specimens, both males. The Mexican examples are paler than those from Dominica in my own collection.

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## 2. *Sathria cephalis*.

*Botys cephalis*, Walk. Cat. xviii. p. 623<sup>1</sup>.

*Botys laticalis*, Leder. Wien. ent. Monats. vii. pp. 375, 472, t. 11. fig. 4<sup>2</sup>.

*Hab.* MEXICO, Presidio (*Forrer*), Rinconada, Paso de San Juan (*Schaus*); GUATEMALA, Zapote (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*), Santa Clara Valley 1200 feet (*Zürcher*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*; *Arcé, in mus. D.*).—VENEZUELA<sup>1 2</sup>.

## 3. *Sathria minnithalis*, sp. n. (Tab. LXII. fig. 15, ♂.)

*Male*. Primaries reddish-brown, the apex yellow, three indistinct darker brown lines crossing the wing from the costal to the inner margin—the first close to the base, the second beyond the cell, the third submarginal,—a small black dot in the cell, the fringe brown; secondaries pale brown, with a submarginal row of darker spots, the fringe brown: head, antennæ, and thorax reddish-brown, the abdomen and legs pale brown.—*Female*. Very similar to the male. Expanse 1 $\frac{1}{4}$  inch.

*Hab.* GUATEMALA, Calderas (*Champion*); PANAMA, Chiriqui (*Arcé, in mus. D.*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

A few specimens. A male from Chiriqui is figured.

## PARDOMIMA.

*Pardomima*, Warren, Ann. & Mag. Nat. Hist. (6) vi. p. 477 (1890).

### 1. *Pardomima novalis*.

*Botys* ?) *novalis*, Walk. Cat. xxxiv. p. 1399<sup>1</sup>.

*Hab.* PANAMA, Volcan de Chiriqui (*Ribbe*).—AMAZONS, Villa Nova<sup>1</sup>.

One specimen, nearly agreeing with Walker's type in the National Museum.

## STENOMELES.

*Stenomeles*, Warren, Ann. & Mag. Nat. Hist. (6) ix. p. 437 (1892).

### 1. *Stenomeles agavealis*.

*Botys agavealis*, Walk. Cat. xviii. p. 574<sup>1</sup>.

? *Botys pruinalis*, Leder. Wien. ent. Monats. vii. pp. 373, 469, t. 9. fig. 6<sup>2</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*).—BRAZIL<sup>2</sup>; ANTILLES, San Domingo<sup>1</sup>.

Sent in numbers from Teapa, the specimens agreeing well with others from Rio Janeiro in my own collection.

## PILOCROCIS.

*Pilocrocis*, Lederer, Wien. ent. Monats. vii. p. 430, t. 3. fig. 17, t. 5. fig. 12 (1863).

### 1. *Pilocrocis amissalis*.

*Botys amissalis*, Guen. Sp. gén. des Lép. viii. p. 351<sup>1</sup>; Walk. Cat. xviii. p. 614<sup>2</sup>.

*Pilocrocis amissalis*, Leder. Wien. ent. Monats. vii. p. 430<sup>3</sup>.



*Hab.* MEXICO, Jalapa (*M. Trujillo*), Coatepec (*Brooks*), Teapa (*H. H. Smith*), Temax in North Yucatan (*Gaumer*); GUATEMALA, San Gerónimo (*Champion*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—BRAZIL <sup>1 2 3</sup>.

In Mexico this species appears to be not uncommon, but from Guatemala we have received only one example, which is slightly darker than the others.

### MICROTHYRIS.

*Microthyris*, Lederer, Wien. ent. Monats. vii. p. 432 (1863).

#### 1. *Microthyris prolongalis*.

*Botys prolongalis*, Guen. Sp. gén. des Lép. viii. p. 353<sup>1</sup>; Walk. Cat. xviii. p. 620<sup>2</sup>.

*Microthyris prolongalis*, Leder. Wien. ent. Monats. vii. p. 433, t. 16. fig. 17<sup>3</sup>.

*Botys eurytalis*, Walk. Cat. xviii. p. 576<sup>4</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Cordova (*Rümeli*); GUATEMALA, Cerro Zunil 4000 to 5000 feet, Volcan de Atitlan 2500 to 3500 feet, Pantaleon, Zapote (*Champion*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA (*Arcé, in mus. D.*).—ECUADOR; BRAZIL <sup>1 2 3</sup>; ANTILLES, Jamaica<sup>4</sup>, San Domingo<sup>4</sup>, Dominica.

Of this species we have received a considerable number of specimens, which vary to some extent in the form of the hyaline spots on the primaries—in some examples they are quite large, in others small and indistinct.

#### 2. *Microthyris sectalis*.

*Botys sectalis*, Guen. Sp. gén. des Lép. viii. p. 353<sup>1</sup>; Walk. Cat. xviii. p. 620<sup>2</sup>.

*Microthyris sectalis (scotalis)*, Leder. Wien. ent. Monats. vii. p. 433<sup>3</sup>.

*Botys subæqualis*, Walk. Cat. xxxiv. p. 1394<sup>4</sup>.

*Hab.* MEXICO, Teapa (*H. H. Smith*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA, Bogota<sup>4</sup>; BRAZIL <sup>1 2 3</sup>.

A female specimen from the Volcan de Chiriqui belongs, I believe, to *M. sectalis*, Guen.; it is rather smaller than the type of *Botys subæqualis*, Walk., which is contained in my own collection, the latter being inseparable from Guenée's species.

### HERPETOGRAMMA.

*Herpetogramma*, Lederer, Wien. ent. Monats. vii. p. 430 (1863).

#### 1. *Herpetogramma patagialis*.

*Botys patagialis*, Zell. Kongl. Vet.-Ak. Handl. 1852, p. 37<sup>1</sup>; Walk. Cat. xxxiv. p. 1387<sup>2</sup>.

*Herpetogramma servalis*, Leder. Wien. ent. Monats. vii. p. 430, t. 16. fig. 16<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Coatepec (*Schaus*); GUATEMALA, San Gerónimo (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*), Candelaria Mts. (*Underwood*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA<sup>1</sup>; BRAZIL<sup>3</sup>.—CAFFRARIA<sup>1 2</sup>.

## CERATOCCLASIS.

*Ceratocclasis*, Lederer, Wien. ent. Monats. vii. p. 430, t. 5. fig. 13 (1863).

1. *Ceratocclasis delimitalis*.

*Botys delimitalis*, Guen. Sp. gén. des Léop. viii. p. 351<sup>1</sup>; Walk. Cat. xviii. p. 571<sup>2</sup>.

*Ceratocclasis delimitalis*, Leder. Wien. ent. Monats. vii. p. 431, t. 16. fig. 14<sup>3</sup>.

*Hab.* MEXICO, Dos Arroyos in Guerrero 1000 feet (*H. H. Smith*); GUATEMALA, San Gerónimo, Zapote (*Champion*); COSTA RICA, Santa Clara Valley 1200 feet (*Zürcher*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—BRAZIL<sup>3</sup>; ANTILLES, Haiti<sup>1 2 3</sup>.

We have received numerous examples of this species from our region.

2. *Ceratocclasis infuscalis*.

*Botys infuscalis*, Guen. Sp. gén. des Léop. viii. p. 350<sup>1</sup>; Walk. Cat. xviii. p. 613<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 375 (nec Zell.)<sup>3</sup>.

*Hab.* MEXICO, Durango (*Forrer*), Jalapa (*M. Trujillo*), Venta de Zopilote in Guerrero, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Isidro, Cubilguitz in Vera Paz (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—BRAZIL<sup>1 2 3</sup>.

## SAMEA.

*Samea*, Guenée, Sp. gén. des Léop. p. 193 (1854) (part.).

1. *Samea ecclesiális*.

*Samea ecclesiális*, Guen. Sp. gén. des Léop. viii. p. 194, Delt. et Pyral. t. 6. fig. 7<sup>1</sup>; Walk. Cat. xvii. p. 350<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 380<sup>3</sup>; Druce, P. Z. S. 1884, p. 325<sup>4</sup>.

*Samea disertalis*, Walk. Cat. xxxiv. p. 1302<sup>5</sup>.

*Botys artificialis*, Leder. Wien. ent. Monats. vii. pp. 370, 463, t. 8. fig. 16<sup>6</sup>.

*Hab.* NORTH AMERICA<sup>3</sup>.—MEXICO, Presidio (*Forrer*), Rinconada (*Schaus*), Jalapa (*M. Trujillo*), Teapa in Tabasco (*H. H. Smith*); BRITISH HONDURAS, Belize (*Sir A. Moloney, in mus. D.*); GUATEMALA, San Gerónimo, El Reposo, Cerro Zunil 4000 to 5000 feet (*Champion*); HONDURAS (*Dyson*<sup>2</sup>), Limas<sup>5</sup>; COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*), Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Bugaba, Volcan de Chiriqui (*Champion*).—COLOMBIA<sup>1</sup>; VENEZUELA<sup>2</sup>; ECUADOR; GUIANA, Cayenne<sup>3</sup>; AMAZONS<sup>2</sup>; BRAZIL<sup>1 6</sup>; ANTILLES, Jamaica<sup>2</sup>, Dominica<sup>4</sup>.

This common and widely distributed species varies considerably in size and in the distinctness of the markings.

2. *Samea matutinalis*.

*Samea matutinalis*, Guen. Sp. gén. des Léop. viii. p. 195<sup>1</sup>; Walk. Cat. xvii. p. 354 (?)<sup>2</sup>.

*Botys matutinalis*, Leder. Wien. ent. Monats. vii. p. 376, t. 11. fig. 14<sup>3</sup>.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Ribbe, in mus.*



*Staudinger*), Taboga I. (*J. J. Walker*).—GUIANA, Cayenne<sup>1</sup>; ECUADOR; AMAZONS<sup>2</sup>; BRAZIL<sup>3</sup>, Rio Janeiro<sup>2</sup>.

Three specimens, agreeing with others from Ecuador in my own collection.

### 3. *Samea zinghalis*.

*Samea zinghalis*, Walk. Cat. xvii. p. 355<sup>1</sup>.

*Phalangiodes serinalis*, Walk. Cat. xvii. p. 468<sup>2</sup>.

*Hab.* NORTH AMERICA, United States<sup>2</sup>.—MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, San Gerónimo, Zapote (*Champion*).—VENEZUELA<sup>1</sup>.

Six specimens, varying considerably in size.

## MIMORISTA.

*Mimorista*, Warren, Ann. & Mag. Nat. Hist. (6) vi. p. 476 (1890).

### 1. *Mimorista actealis*.

*Hymenia actealis*, Walk. Cat. xix. p. 944<sup>1</sup>.

*Samea dignotalis*, Walk. Cat. xxxiv. p. 1301<sup>2</sup>.

*Hab.* HONDURAS, Limas<sup>2</sup>.—AMAZONS, Villa Nova<sup>1</sup>.

The types of this species are contained in the National Collection.

### 2. *Mimorista ebulealis*.

*Samea ebulealis*, Guen. Sp. gén. des Lép. viii. p. 196<sup>1</sup>; Walk. Cat. xvii. p. 351<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 380<sup>3</sup>.

*Hab.* NORTH AMERICA<sup>1 3</sup>.—GUATEMALA, in the city (*Rodriguez*); HONDURAS (*Dyson*<sup>2</sup>); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—BRAZIL<sup>1 3</sup>.

The two specimens received from Guatemala are very similar to the type; the single example from Chiriqui in Dr. Staudinger's collection is much paler.

### 3. *Mimorista salaconalis*, sp. n. (Tab. LXII. fig. 16.)

Primaries and secondaries bright yellow; the primaries with the costal margin, a spot at the end of the cell, the apex, and outer margin glossy-purplish-brown; the secondaries edged with purplish-brown; head brown, the thorax and abdomen yellowish, the legs white. Expanse  $\frac{3}{4}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen, apparently a female.

## EULEPTE.

*Eulepte*, Hübner, Samml. exot. Schmett. ii. t. 225. figg. 1-4 (1806).

### 1. *Eulepte concordalis*.

*Eulepte concordalis*, Hübner, Samml. exot. Schmett. ii. t. 225. figg. 1-4<sup>1</sup>.

*Botys concordalis*, Guen. Sp. gén. des Lép. viii. p. 345<sup>2</sup>; Walk. Cat. xviii. p. 608<sup>3</sup>; Leder. Wien. ent. Monats. vii. p. 375<sup>4</sup>.

*Botys gastralis*, Guen. Sp. gén. des Lép. viii. p. 346<sup>5</sup>; Walk. Cat. xviii. p. 570<sup>6</sup>.

*Botys ogmiasalis*, Walk. Cat. xviii. p. 730<sup>7</sup>.

*Botis levalis*, Hulst, Trans. Am. Ent. Soc. xiii. p. 152<sup>8</sup>.

*Hab.* NORTH AMERICA, Florida<sup>8</sup>, California<sup>8</sup>.—MEXICO, Orizaba (*Boucard, in mus. D.*), Rinconada and Paso de San Juan (*Schaus*), Jalapa (*M. Trujillo*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Pantaleon, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Arcé, in mus. D.*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Obispo (*Salvin, in mus. D.*). — VENEZUELA<sup>3</sup>; ECUADOR; AMAZONS<sup>3</sup>; BRAZIL<sup>2 4</sup>; ANTILLES, Haiti<sup>5</sup>, San Domingo<sup>5 6</sup>, Dominica, Guadeloupe<sup>5</sup>.

This species, of which we have received a large series, varies in size and colour; some examples are pale hyaline-yellow, others are bright yellow with the darker markings very distinct. The specimens from Mexico and Guatemala are generally paler than those from South America, but they are in no way constant. Walker<sup>7</sup> does not give any locality for *Botys ogmiasalis*.

## 2. *Eulepte plagiatalis*.

*Botys plagiatalis*, Walk. Cat. xviii. p. 673<sup>1</sup>.

*Hapalia* (?) *plagiatalis*, Moore, Lep. Ceylon, iii. p. 337<sup>2</sup>.

*Hab.* GUATEMALA, San Isidro 1600 feet (*Champion*).—CEYLON<sup>1 2</sup>.

The type of this species, which is said to be from Ceylon, is contained in the Oxford Museum, and a specimen from Guatemala agrees well with it. Walker's type is, I believe, a male, and the Guatemalan specimen a female.

## 3. *Eulepte pactolalis*.

*Botys pactolalis*, Guen. Sp. gén. des Lép. viii. p. 346<sup>1</sup>; Walk. Cat. xviii. p. 608<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 375<sup>3</sup>.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Arcé, in mus. D.*).—ANTILLES, Guadeloupe<sup>1 2 3</sup>.

We have received a good series of this species from Costa Rica; it is allied to *E. concordalis*, Hübn., but is larger, and has the base of the primaries brown.

## PRENESTA.

*Prenesta*, Snellen, Tijdschr. voor Ent. xviii. p. 219 (1874).

### 1. *Prenesta sunialis*.

*Prenesta sunialis*, Snell. Tijdschr. voor Ent. xviii. p. 221, t. 12. figg. 17, 18.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—COLOMBIA, Rio Magdalena<sup>1</sup>.

Dr. Staudinger has received a specimen of this species from Chiriqui



## 2. *Prenesta scyllalis*.

*Botys scyllalis*, Walk. Cat. xviii. p. 566<sup>1</sup>.

*Prenesta scyllalis*, Warr. Trans. Ent. Soc. Lond. 1889, p. 281<sup>2</sup>.

*Prenesta scyllalis*, var. *castanealis*, Warr. loc. cit. p. 282<sup>3</sup>.

*Botys delicatalis*, Leder. Wien. ent. Monats. vii. pp. 376, 473, t. 11. fig. 10<sup>4</sup>.

*Prenesta fabialis*, Snell. Tijdschr. voor Ent. xviii. p. 220, t. 12. figg. 15, 16<sup>5</sup>.

*Hab.* MEXICO<sup>1</sup>; GUATEMALA, Teleman in Vera Paz (*Champion*); HONDURAS, Ruatan I. (*Gaumer*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Trötsch. in mus. Staudinger*), Obispo (*Salvin, in mus. D.*).—COLOMBIA, Rio Magdalena<sup>5</sup>; ECUADOR; AMAZONS<sup>2 3</sup>; BRAZIL<sup>4</sup>.

I have seen five specimens only of this species from Central America. From Tropical South America I have in my own collection a considerable number of examples, which vary in colour from pale yellow to dark reddish-yellow. One specimen from Rio Janeiro is very similar to those from Panama.

## ASTURA.

*Astura*, Guenée, Sp. gén. des Léop. viii. p. 318 (1854).

This genus may be readily distinguished from its allies by the very long antennæ in both sexes.

## 1. *Astura elevata*.

*Phalæna elevata*, Fabr. Ent. Syst. iii. 2, p. 216<sup>1</sup>.

*Astura elevata*, Guen. Sp. gén. des Léop. viii. p. 319, Delt. et Pyral. t. 10. fig. 3<sup>2</sup>; Walk. Cat. xviii. p. 548<sup>3</sup>; Druce, P. Z. S. 1884, p. 325<sup>4</sup>.

*Botys elevata*, Leder. Wien. ent. Monats. vii. p. 375<sup>5</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo, Höge*), Coatepec (*Schaus*); GUATEMALA, Panima in Vera Paz, Cerro Zunil 4000 feet, Zapote (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe*), Volcan de Chiriqui 4000 to 5000 feet (*Champion*).—SOUTH AMERICA<sup>1</sup>, Cayenne<sup>2 3 5</sup>, Pará<sup>3</sup>, Ega<sup>3</sup>, Brazil<sup>5</sup>; ANTILLES, Dominica<sup>4</sup>.

This beautiful species is widely distributed in our region, but I have not seen it from South America.

## 2. *Astura fimbriauralis*.

*Astura fimbriauralis*, Guen. Sp. gén. des Léop. viii. p. 319<sup>1</sup>; Walk. Cat. xviii. p. 548<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 390, t. 12. fig. 16<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Cordova, (*Rümeli*), Atoyac in Vera Cruz (*H. H. Smith*); GUATEMALA, Panima in Vera Paz, Cerro Zunil 4000 feet, Zapote (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*), Candelaria Mts. (*Underwood*);

PANAMA, Chiriqui (*Ribbe*), Volcan de Chiriqui 4000 to 5000 feet (*Champion*).—AMAZONS, Pará<sup>2</sup>; BRAZIL<sup>1 3</sup>; ANTILLES, Jamaica<sup>2</sup>, San Domingo<sup>2</sup>.

Varies in size and colour, and in the distinctness of the markings. The Mexican specimens are large, heavily spotted, and dark, agreeing best with those from Panama. The Guatemalan specimens are small and pale, with the spots indistinct, agreeing best with those from the Amazons in my own collection.

## NOTARCHA.

*Notarcha*, Meyrick, Trans. Ent. Soc. Lond. 1884, p. 310.

### 1. *Notarcha cassusalis*.

*Zebronia cassusalis*, Walk. Cat. xvii. p. 477<sup>1</sup>.

*Haritala cassusalis*, Moore, Lep. Ceylon, iii. p. 311<sup>2</sup>.

*Notarcha cassalis*, Meyr. Trans. Ent. Soc. Lond. 1884, p. 311<sup>3</sup>.

*Zebronia aurolinealis*, Walk. Cat. xvii. p. 478<sup>4</sup>.

*Pycnarmon aurolinealis*, Moore, P. Z. S. 1867, p. 92<sup>5</sup>.

*Botys faustalis*, Leder. Wien. ent. Monats. vii. pp. 375, 471, t. 10. fig. 15<sup>6</sup>.

*Hab.* MEXICO, Atoyac in Vera Cruz (*Schumann*), Orizaba (*H. J. Elwes*), Jalapa (*Höge*).—BORNEO; CELEBES<sup>3</sup>; JAVA<sup>3</sup>; SUMATRA<sup>3</sup>; AMBOINA<sup>6</sup>; INDIA<sup>3 4 5</sup>; CEYLON<sup>2 3 4</sup>; NATAL<sup>1</sup>; AUSTRALIA<sup>3</sup>.

I cannot separate the Mexican specimens from others from India in Col. Swinhoe's collection. The species possesses an extraordinary geographical distribution.

### 2. *Notarcha æchmisalis*.

*Botys æchmisalis*, Walk. Cat. xix. p. 982<sup>1</sup>.

*Hab.* MEXICO<sup>1</sup>; GUATEMALA, San Gerónimo (*Champion*).

Two specimens, both in poor condition.

## ZEBRONIA.

*Zebronia*, Hübner, Verz. bek. Schmett. p. 361 (1816); Walker, Cat. xvii. p. 469.

### 1. *Zebronia perspicata*.

*Phalæna perspicata*, Fabr. Mant. Ins. ii. p. 213<sup>1</sup>.

*Palpita normalis perspicalis*, Hübn. Samml. exot. Schmett. i. t. 211. figg. 1–4<sup>2</sup>.

*Zebronia perspicalis*, Hübn. Verz. bek. Schmett. p. 361<sup>3</sup>; Walk. Cat. xvii. p. 471<sup>4</sup>.

*Spilomela perspicalis*, Guen. Sp. gén. des Lép. viii. p. 280<sup>5</sup>; Leder. Wien. ent. Monats. vii. p. 442<sup>6</sup>.

*Pyrallis strigialis*, Stoll, Suppl. Cram. Pap. Exot. v. p. 56, t. 12. fig. 7<sup>7</sup>.

*Zebronia strigialis*, Hübn. Verz. bek. Schmett. p. 361<sup>8</sup>.

*Spilomela strigialis*, Snell. Tijdschr. voor. Ent. xviii. p. 256<sup>9</sup>.

*Hab.* GUATEMALA, Panzos in Vera Paz (*Champion*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Arcé*, in mus. D.; *Ribbe*, in mus. *Staudinger*), Obispo



(*Salvin, in mus. D.*), Taboga I. (*Mathew, in mus. D.; J. J. Walker*).—SOUTH AMERICA<sup>6</sup>; WEST COAST OF AMERICA (*Kellett & Wood*<sup>4</sup>); COLOMBIA<sup>9</sup>; VENEZUELA<sup>4</sup>; ECUADOR; GUIANA, Surinam<sup>7</sup>, Cayenne<sup>5</sup>; AMAZONS, Ega<sup>4</sup>; BRAZIL.

Apparently a common insect in Costa Rica, whence we have received a number of specimens; from Guatemala a single example only has come to hand.

## 2. *Zebronia semizebralis*.

*Zebronia semizebralis*, Walk. Cat. xxxiv. p. 1345<sup>1</sup>.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—COLOMBIA, Bogota<sup>1</sup>.

Two worn specimens, nearly agreeing with Walker's type, which is contained in my own collection.

## LEDERERIA.

*Ledereria*, Snellen, Tijdschr. voor Ent. xviii. p. 256 (1875).

## 1. *Ledereria nolckenialis*.

*Ledereria nolckenialis*, Snell. Tijdschr. voor Ent. xviii. p. 257, t. 14. fig. 11<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*Schaus*), Valladolid in Yucatan (*Gaumer*); HONDURAS (*Wittkugel, in mus. Staudinger*); COSTA RICA, Santa Clara Valley 1200 feet (*Zürcher*).—COLOMBIA, Conejo on the Magdalena River<sup>1</sup>.

## 2. *Ledereria pantheralis*.

*Ochlia pantheralis*, Geyer, in Hübner's Zutr. Samml. exot. Schmett. iv. p. 20, figg. 673, 674<sup>1</sup>.

*Botys pantheralis*, Walk. Cat. xix. p. 981<sup>2</sup>.

*Spilomela pantheralis*, Leder. Wien. ent. Monats. vii. p. 442<sup>3</sup>.

*Conchylodes pantheralis*, Grote, Check-list N. Am. Moths, p. 54 (1882)<sup>4</sup>.

*Zebronia ledalis*, Walk. Cat. xvii. p. 474<sup>5</sup>.

*Ledereria seppalis*, Snell. Tijdschr. voor Ent. xviii. p. 258, t. 14. fig. 12 (♂)<sup>6</sup>.

*Hab.* NORTH AMERICA<sup>1 2 3 4</sup>.—PANAMA, Chiriqui (*Arcé, in mus. D.*), Rio Candelaria (*in mus. Staudinger*).—COLOMBIA<sup>6</sup>, Bogota; ECUADOR; AMAZONS, Ega<sup>5</sup>.

I have seen five specimens only of this species, two from the State of Panama, and three from South America.

## 3. *Ledereria phenice*.

*Phalæna Pyralis phenice*, Cram. Pap. Exot. iv. p. 185, t. 382. fig. G<sup>1</sup>.

*Spilomela phenicealis*, Guen. Sp. gén. des Lép. viii. p. 281 (nec Walk.)<sup>2</sup>.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).—GUIANA, Surinam<sup>1 2</sup>.

The African species placed under this name by Walker in his Catalogue (vii. p. 476) is quite distinct. Mr. Schaus informs me that *L. phenice* is not uncommon at Las Vigas, but I have only seen one specimen.

BIOL. CENTR.-AMER., Heter., Vol. II., October 1895.

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#### 4. *Ledereria randalis*, sp. n. (Tab. LXII. fig. 17.)

*Male*. Primaries and secondaries silky-white, the primaries crossed by three and the secondaries by two brownish-black lines, the costal and outer margins of the primaries and the outer margin of the secondaries blackish-brown: head, thorax, abdomen, and legs white, the antennæ brownish-white. Expanse  $1\frac{1}{16}$  inch.

*Hab.* MEXICO, Coatepec, Jalapa (*coll. Schaus*).

The specimen from Jalapa is figured.

### LINOSTA.

*Linosta*, Möschler, Verh. zool.-bot. Ges. Wien, 1881, p. 433.

*Metrea*, Grote, Papilio, ii. p. 73 (1882).

#### 1. *Linosta sinceralis*.

*Linosta sinceralis*, Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 443, t. 18. fig. 40<sup>1</sup>.

*Metrea argentalis*, H. Edwards, Papilio, iv. p. 19<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Paso de San Juan in Vera Cruz (*Schaus*<sup>2</sup>); GUATEMALA (*Conradt, in mus. Staudinger*), Senahu in Vera Paz (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*), Candelaria Mts. (*Underwood*).—GUIANA, Paramaribo<sup>1</sup>.

Möschler's figure is a very poor one, but I have very little doubt that our specimens belong to his species. Mr. Schaus informs me that *Metrea argentalis*, H. Edwards, is inseparable from it.

### CONCHYLODES.

*Conchylodes*, Guenée, Sp. gén. des Lép. viii. p. 288 (1854).

#### 1. *Conchylodes platinalis*.

*Spilomela platinalis*, Guen. Sp. gén. des Lép. viii. p. 282<sup>1</sup>.

*Conchylodes platinalis*, Leder. Wien. ent. Monats. vii. p. 443<sup>2</sup>.

*Zebronia erinalis*, Walk. Cat. xvii. p. 474<sup>3</sup>.

*Conchylodes erinalis*, Leder. Wien. ent. Monats. vii. p. 443<sup>4</sup>.

*Zebronia magicalis*, Feld. & Rogenh. Reise der Novara, Lep. t. 135. fig. 6<sup>5</sup>.

*Hab.* NORTH AMERICA<sup>2</sup>, Missouri<sup>1</sup>.—MEXICO, Paso de San Juan in Vera Cruz (*Schaus*), Cordova (*Rümelin*), Jalapa (*M. Trujillo*), Atoyac in Vera Cruz, Amula 6000 feet, Dos Arroyos, and La Venta in Guerrero, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Panima, San Juan, and San Gerónimo in Vera Paz, Zapote (*Champion*); NICARAGUA, Chontales (*Janson*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet, Caché (*Rogers*); PANAMA, Chiriqui (*Arcé, in mus. D.; Ribbe*), Veraguas<sup>5</sup> (*Mus. Vind. Cæs.*), Taboga I. (*J. J. Walker*).—VENEZUELA<sup>3 4</sup>; TRINIDAD.

A common insect in Central America.



## 2. *Conchylodes striginalis*.

*Spilomela striginalis*, Guen. Sp. gén. des Lép. viii. p. 281, Delt. et Pyral. t. 7. fig. 9<sup>1</sup>.

*Zebronia striginalis*, Walk. Cat. xvii. p. 472<sup>2</sup>.

*Conchylodes striginalis*, Leder. Wien. ent. Monats. vii. p. 443<sup>3</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); PANAMA, Chiriqui (*Ribbe*), Bugaba (*Champion*).—COLOMBIA, Bogota<sup>2</sup>; ECUADOR; GUIANA, Cayenne<sup>1 2 3</sup>.

## 3. *Conchylodes argentalis*.

*Phalæna Pyralis argentalis*, Cram. Pap. Exot. iv. p. 161, t. 371. fig. M (nec Fabr.)<sup>1</sup>.

*Spilomela argentalis*, Guen. Sp. gén. des Lép. viii. p. 282<sup>2</sup>.

*Conchylodes argentalis*, Leder. Wien. ent. Monats. vii. p. 443<sup>3</sup>.

*Zebronia erminea*, Feld. & Rogenh. Reise der Novara, Lep. t. 135. fig. 7<sup>4</sup>.

*Spilomela ovulalis*, Guen. Sp. gén. des Lép. viii. p. 283<sup>5</sup>.

*Hab.* MEXICO, Presidio, Durango (*Forrer*), Cordova (*Rümeli*), Atoyac in Vera Cruz, Cuernavaca in Morelos, Dos Arroyos and Tierra Colorada in Guerrero, Teapa in Tabasco (*H. H. Smith*), Temax in North Yucatan (*Gaumer*); GUATEMALA, Cahabon and San Gerónimo in Vera Paz, San Isidro (*Champion*); PANAMA, Chiriqui<sup>4</sup> (*Arcé, in mus. D.*; *Ribbe*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Obispo (*Salvin, in mus. D.*).—COLOMBIA<sup>5</sup>; VENEZUELA<sup>4</sup>; GUIANA, Surinam<sup>1 2 3</sup>.

Of this species we have received a long series from our region. It varies in the extent of the black markings on the wings.

## 4. *Conchylodes salamisalis*, sp. n. (Tab. LXII. fig. 19.)

*Male*. Primaries and secondaries silky-hyaline-white; the primaries with three short dark brown streaks partly crossing the wing from the costal margin, two broad brown bands crossing from the costal to the inner margin—the first near the base, the second beyond the middle,—a large dark brown spot close to the apex, and a submarginal fawn-coloured line extending from it to the anal angle, the fringe alternately dark brown and white; the secondaries with a fawn-coloured spot, with a fine black line on each side of it, at the end of the cell, below which a narrow black line partly crosses the wing, a black spot at the apex, from which a fawn-coloured line extends to the anal angle, the marginal line black, the fringe white: head, thorax, and abdomen yellowish-white, the latter with the third, fourth, and fifth segments black above, and the anus black; the legs black and white, the antennæ brown.—*Female*. Very similar to the male. Expanse 1½ inch.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*); GUATEMALA, in the city (*Rodriguez*), San Isidro (*Champion*); PANAMA (*Ribbe, in mus. Staudinger*), Chiriqui (*Trötsch, in mus. Staudinger*).—ECUADOR.

Of this species, which is allied to *C. (Lypotigris) diphteralis*, Geyer, from the Antilles, I have seen five specimens only from within our limits; but from Ecuador I have received a large series, which show some slight variation in the distinctness of the markings. In some of the Ecuador specimens the fawn-coloured lines are entirely wanting. An example from San Isidro is figured.

5. *Conchylodes* (?) *sabatalis*, sp. n. (Tab. LXII. fig. 18.)

Primaries and secondaries pale yellowish-white; the primaries crossed from the costal to the inner margin by four dark brown lines, which are broken into spots, the outer margin from the apex to the anal angle shaded with dark brown, the fringe pale yellowish-brown; the secondaries crossed by two rows of broken brown lines, the apex slightly edged with brown, the marginal line black, the fringe pale yellow: head, thorax, and abdomen yellow, the anus black, the antennæ and legs yellowish-white.—*Female*. Very similar to the male. Expanse 1 inch.

*Hab.* MEXICO, Átoyac in Vera Cruz, Dos Arroyos in Guerrero (*H. H. Smith*), Temax in North Yucatan (*Gaumer*); GUATEMALA, El Reposo (*Champion*).

The Guatemalan specimens are much smaller than those from Mexico. An example from Dos Arroyos is figured.

6. *Conchylodes levinia*.

*Phalæna Pyralis levinia*, Cram. Pap. Exot. iv. p. 131, t. 357. fig. K<sup>1</sup>.

*Spilomela levinialis*, Guen. Sp. gén. des Lép. viii. p. 283<sup>2</sup>.

*Zebonia levinialis*, Walk. Cat. xvii. p. 472<sup>3</sup>.

*Conchylodes levinia*, Leder. Wien. ent. Monats. vii. p. 443<sup>4</sup>.

*Zebonia bunusalis*, Walk. Cat. xix. p. 967<sup>5</sup>.

*Conchylodes bunusalis*, Warr. Trans. Ent. Soc. Lond. 1889, p. 267<sup>6</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); PANAMA, Chiriqui (*Ribbe*, in *mus. Staudinger*).—ECUADOR; GUIANA, Surinam<sup>3 4</sup>, Cayenne<sup>2 4</sup>; AMAZONS<sup>6</sup>; BRAZIL, Rio Janeiro<sup>5</sup>.

We have received three specimens of this species from Mexico. An example from Ecuador in my own collection has the wings more heavily spotted.

CÆNOSTOLA.

*Cænostola*, Lederer, Wien. ent. Monats. vii. p. 408 (1863).

1. *Cænostola apicalis*.

*Cænostola apicalis*, Leder. Wien. ent. Monats. vii. pp. 409, 479, t. 14. fig. 16<sup>1</sup>; Walk. Cat. xxxiv. p. 1484<sup>2</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA; BRAZIL<sup>1 2</sup>.

Mr. Champion captured a few specimens of this insect on the Volcan de Chiriqui. Examples from Bogota in my own collection are slightly larger.

OMIODES.

*Omiodes*, Guenée, Sp. gén. des Lép. viii. p. 355 (1854); Lederer, Wien. ent. Monats. vii. p. 409.

A very distinct and well-marked genus; the sexes differ considerably in some of the species.



### 1. *Omiodes humeralis*.

*Omiodes humeralis*, Guen. Sp. gén. des Lép. viii. p. 356<sup>1</sup>; Walk. Cat. xviii. p. 740<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 409<sup>3</sup>.

*Hab.* PANAMA, Chiriqui (*Arcé, in mus. D.; Ribbe, in mus. Staudinger*), Volcan de Chiriqui 3000 feet (*Champion: ♀*).—COLOMBIA; PERU; HAITI<sup>1 2 3</sup>.

I have seen five specimens of this species, three from Central and two from South America. *Arcé* captured a fine male in Chiriqui, and the South-American examples in my own collection are of the same sex.

### 2. *Omiodes cuniculalis*.

*Omiodes cuniculalis*, Guen. Sp. gén. des Lép. viii. p. 356, Delt. et Pyral. t. 5. fig. 9<sup>1</sup>; Walk. Cat. xviii. p. 741<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 409<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, in the city (*Rodriguez*), Volcan de Atitlan 2500 to 3000 feet (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—ECUADOR; GUIANA, Cayenne<sup>1 2 3</sup>.

This species varies in colour from dark brown to pale fawn-brown. I have a large series of specimens before me from Ecuador.

### 3. *Omiodes simialis*.

*Omiodes simialis*, Guen. Sp. gén. des Lép. viii. p. 357<sup>1</sup>; Walk. Cat. xviii. p. 741<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 409<sup>3</sup>.

? *Botys jasonalis*, Walk. Cat. xviii. p. 575<sup>4</sup>.

*Botys orontesalis*, Walk. Cat. xviii. p. 614<sup>5</sup>.

*Cænostola (?) eruptalis*, Leder. Wien. ent. Monats. vii. p. 409, t. 15. fig. 1<sup>6</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).—COLOMBIA; VENEZUELA<sup>5</sup>; GUIANA, Cayenne<sup>1 2 3</sup>; AMAZONS, Ega<sup>5</sup>; BRAZIL<sup>6</sup>; ANTILLES, San Domingo<sup>4</sup>.

Apparently a rare species. I have seen only two specimens of it from our region, and but very few from South America. They vary in the extent of the yellow markings on the costal margin of the primaries.

### 4. *Omiodes roxonalis*, sp. n. (Tab. LXII. fig. 20.)

Primaries and secondaries pale glossy-brown, in some lights showing a purplish shade; the underside greyish: head, antennæ, thorax, and abdomen brown, the legs greyish-white. Expanse  $1\frac{6}{10}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

A very dull-coloured species.

### 5. *Omiodes milvalis*, sp. n. (Tab. LXII. fig. 21.)

Primaries and secondaries yellow; the primaries with the costal margin brownish-yellow and the apex broadly purplish-brown, two lines crossing the wing from the costal to the inner margin—the first near the base, the second just beyond the cell,—and a small dot in the cell, brown; the secondaries with the apex and outer margin purplish-brown, a large U-shaped brown mark extending from the costal margin across the wing,

from near the lower side of which a waved line extends to the inner margin; the fringe greyish-brown: head chrome-yellow, the antennæ yellowish-brown; the thorax and abdomen chrome-yellow above, yellowish-white beneath; the legs yellowish-white. Expanse  $1\frac{3}{4}$  inch.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*), Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Trötsch. in mus. Staudinger*), Bugaba (*Champion*).

This fine species is closely allied to an undescribed form from Ecuador in my own collection. A specimen from the Volcan de Irazu is figured.

#### METASIA.

*Metasia*, Guenée, Sp. gén. des Lép. viii. p. 251 (1854); Lederer, Wien. ent. Monats. vii. p. 420, t. 3, fig. 16.

##### 1. *Metasia belialis*.

*Botys belialis*, Walk. Cat. xviii. p. 602<sup>1</sup>.

*Botys molliculalis*, Walk. Cat. xxxiv. p. 1398<sup>2</sup>.

*Hab.* HONDURAS<sup>2</sup>.—AMAZONS, Villa Nova<sup>1</sup>.

The only specimens known to me of this insect are Walker's types in the National collection.

#### BOCCHORIS.

*Bocchoris*, Moore, Lep. Ceylon, iii. p. 271 (1885).

##### 1. *Bocchoris zoilusalis*.

*Botys zoilusalis*, Walk. Cat. xviii. p. 603<sup>1</sup>.

*Botys sylvialis*, Walk. loc. cit. p. 615<sup>2</sup>.

*Hab.* HONDURAS (*Dyson*<sup>1</sup>); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—ECUADOR; AMAZONS; BRAZIL<sup>2</sup>; ANTILLES, Haiti, Dominica.

#### LYGROPIA.

*Lygropia*, Lederer, Wien. ent. Monats. vii. p. 381 (1863); Walker, Cat. xxxiv. p. 1491.

##### 1. *Lygropia unicoloralis*.

*Asopia unicoloralis*, Guen. Sp. gén. des Lép. viii. p. 203<sup>1</sup>; Walk. Cat. xvii. p. 367<sup>2</sup>.

*Lygropia unicoloralis*, Leder. Wien. ent. Monats. vii. p. 381<sup>3</sup>.

*Botys acastalis*, Walk. Cat. xviii. p. 600<sup>4</sup>.

*Ebulea heronalis*, Walk. Cat. xviii. p. 748<sup>5</sup>.

*Hab.* MEXICO, Presidio, Milpas in Durango 5900 feet (*Forrer*), Paso de San Juan and Rinconada in Vera Cruz (*Schaus*), Amula and Omilteme in Guerrero 6000 to 8000 feet (*H. H. Smith*), Temax in North Yucatan (*Gaumer*); GUATEMALA, San Gerónimo, Zapote (*Champion*); HONDURAS (*Dyson*<sup>4 5</sup>); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Taboga I. (*J. J. Walker*).—BRAZIL<sup>1 2 3</sup>.

This species varies greatly in size, and also in colour—from dark chrome-yellow to pale primrose-yellow. We have received a good series from Guatemala.



## PHOSTRIA.

*Phostria*, Hübner, Verz. bek. Schmett. p. 130 (1816).

This genus is not noticed by Guenée, Lederer, or Walker; it contains but few species.

1. *Phostria tedeae*.

*Phalæna Pyralis tedeae*, Cram. Pap. Exot. iv. p. 48, t. 312. fig. G<sup>1</sup>.

*Glyphodès (?) tedealis*, Walk. Cat. xvii. p. 506<sup>2</sup>.

*Desmia (?) tedeae*, Leder. Wien. ent. Monats. vii. p. 433<sup>3</sup>.

*Hyalitis tedeae*, Guen. Sp. gén. des Lép. viii. p. 289<sup>4</sup>.

*Phostria tedeae*, Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 430<sup>5</sup>; Warr. Trans. Ent. Soc. Lond. 1889, p. 277<sup>6</sup>.

*Hab.* GUATEMALA, El Reposo 800 feet (*Champion*); NICARAGUA, Chontales (*Belt*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—GUIANA, Surinam<sup>1 2 3</sup>, Paramaribo<sup>5</sup>; AMAZONS<sup>6</sup>; BRAZIL.

We have received two specimens of this species from our region, agreeing with others from Rio Janeiro in my own collection.

2. *Phostria oajacalis*.

*Botys (?) oajacalis*, Walk. Cat. xxxiv. p. 1393<sup>1</sup>.

*Botys pelialis*, Feld. & Rogenh. Reise der Novara, Lep. t. 135. fig. 46<sup>2</sup>.

*Hab.* MEXICO, Coatepec (*Brooks*), Jalapa (*Schaus*), Chilpancingo in Guerrero 4600 feet (*H. H. Smith*), Cuernavaca (*Bilimek*<sup>2</sup>), Oaxaca (*Sallé*<sup>1</sup>); GUATEMALA, San Gerónimo (*Champion*).

A well-marked species, which is widely distributed in Mexico.

3. *Phostria (?) cryptalis*, sp. n. (Tab. LXII. fig. 22.)

Primaries and secondaries purplish-black; the primaries with five semihyaline pearly-white spots—the first two small and close to the base, the second two larger, one in the middle of the cell and the other below it, the fifth large and at the end of the cell,—the fringe black; the secondaries with the base and a broken band about the middle white, the fringe black: head, antennæ, thorax, and abdomen black, the latter dusky white beneath; the legs dark grey. Expanse 1½ inch.

*Hab.* PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

One specimen.

4. *Phostria (?) cyrisalis*, sp. n. (Tab. LXII. fig. 23, ♂.)

*Male.* Primaries pale purplish-brown, crossed from the costal to the inner margin by three broken rows of white spots, beyond which near the apex are two small white spots; secondaries semihyaline pale brown, paler at the base; the fringe dark brown: head yellowish-brown, the antennæ brown; the thorax greyish-brown, yellowish-brown in front, white beneath; the abdomen greyish-brown above, white beneath; the legs white.—*Female.* Very similar to the male. Expanse 1⅞ inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Bugaba 800 to 1500 feet, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

The Bugaba specimen is figured.

## TRITHYRIS.

*Trithyris*, Lederer, Wien. ent. Monats. vii. p. 410 (1863).

1. *Trithyris fenestrinalis*.

*Botys fenestrinalis*, Guen. Sp. gén. des Lép. viii. p. 341, Delt. et Pyral. t. 5. fig. 8<sup>1</sup>; Walk. Cat. xviii. p. 606<sup>2</sup>.

*Trithyris fenestrinalis*, Leder. Wien. ent. Monats. vii. p. 410<sup>3</sup>.

*Hab.* MEXICO, Rinconada in Vera Cruz (*coll. Schaus*).—ECUADOR; BRAZIL<sup>1 2 3</sup>.

The only example I have seen of this species from our region is the one captured by Mr. Schaus; from Ecuador I have a few specimens. Mr. Schaus informs me it is a common insect at Rio Janeiro.

## HYMENIA.

*Hymenia*, Hübner, Verz. bek. Schmett. p. 360 (1816); Walker, Cat. xvii. p. 395.

*Zinckenia*, Zeller, Kongl. Vet.-Ak. Handl. 1852, p. 55; Lederer, Wien. ent. Monats. vii. p. 436.

Species of this genus are found all over the globe.

1. *Hymenia perspectalis*.

*Pyralis perspectalis*, Hübn. Europ. Schmett. vi., Pyralides, fig. 101<sup>1</sup>.

*Hymenia perspectalis*, Hübn. Verz. bek. Schmett. p. 361<sup>2</sup>.

*Spoladea perspectalis*, Guen. Sp. gén. des Lép. viii. p. 226<sup>3</sup>; Walk. Cat. xvii. p. 395<sup>4</sup>.

*Zinckenia perspectalis*, Leder. Wien. ent. Monats. vii. p. 437<sup>5</sup>; Snell. Tijdschr. voor Ent. xviii. p. 253<sup>6</sup>; Grote, Check-list N. Am. Moths, p. 54 (1882)<sup>7</sup>.

*Spoladea exportalis*, Guen. Sp. gén. des Lép. viii. p. 227<sup>8</sup>.

*Hymenia exportalis*, Walk. Cat. xvii. p. 397<sup>9</sup>.

*Zinckenia primordialis*, Zell. Kong. Vet.-Ak. Handl. 1852, p. 56<sup>10</sup>.

*Hab.* NORTH AMERICA<sup>3 7</sup>.—MEXICO, Presidio, Durango (*Forrer*), Jalapa, Cuesta de Misantla (*M. Trujillo*), Cordova, Paso de San Juan and Rinconada in Vera Cruz (*Schaus*), Atoyac in Vera Cruz, Tierra Colorada and Venta de Zopilote in Guerrero, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Dueñas 4950 feet (*Salvin, in mus. D.*), Cahabon and San Gerónimo in Vera Paz, El Reposo, Cerro Zunil, San Isidro 1600 feet, Volcan de Atitlan (*Champion*); HONDURAS, San Pedro (*Whitely, in mus. D.*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet, Rio Sucio, San Francisco (*Rogers*), Candelaria Mts. (*Underwood*); PANAMA, Volcan de Chiriqui 2500 to 3500 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*), Obispo (*Salvin, in mus. D.*).—SOUTH AMERICA<sup>3</sup>; COLOMBIA, Rio Magdalena<sup>6</sup>; VENEZUELA<sup>4</sup>; ECUADOR; AMAZONS; BRAZIL, Rio Janeiro<sup>4</sup>; ANTILLES, Jamaica<sup>4 6</sup>, Haiti, San Domingo<sup>4</sup>, Dominica.—INDIA<sup>4</sup>; AUSTRALIA<sup>8 9</sup>; CAFFRARIA<sup>10</sup>.

A common and widely distributed species in tropical America. We have received a large series from our region, showing a considerable amount of variation in size, and also in the distinctness of the white spots and lines on the wings, these being very distinct in some specimens and almost obliterated in others.



## 2. *Hymenia recurvalis*.

*Phalæna recurvalis*, Fabr. Ent. Syst. iii. 2, p. 237<sup>1</sup>.

*Hymenia recurvalis*, Walk. Cat. xvii. p. 396<sup>2</sup>, and xix. p. 943<sup>3</sup>.

*Spoladea recurvalis*, Guen. Sp. gén. des Lép. viii. p. 225<sup>4</sup>.

*Zinckenia recurvalis*, Leder. Wien. ent. Monats. vii. p. 437<sup>5</sup>.

*Phalæna angustalis*, Fabr. Mant. ii. p. 222<sup>6</sup>.

*Phalæna Pyralis fascialis*, Cram. Pap. Exot. iv. p. 236, t. 398. fig. O<sup>7</sup>, and Stoll, Suppl. ibid. v. t. 36. fig. 13<sup>8</sup>.

*Hymenia diffascialis*, Hübner. Verz. bek. Schmett. p. 361<sup>9</sup>.

*Hydrocampa albofasciulis*, Boisd. Faune Ent. Madagase., Bourb. et Maurice, p. 119, t. 16. fig. 7 (1833)<sup>10</sup>.

*Hab.* HONDURAS (*Dyson*<sup>2</sup>).—SOUTH AMERICA<sup>2 5 7 8</sup> to Chili; ANTILLES<sup>1 4</sup>, Jamaica<sup>2</sup>, San Domingo<sup>2</sup>, Dominica.—INDIA<sup>2 6 10</sup>; JAVA; CHINA<sup>2</sup>; MADAGASCAR<sup>3 10</sup>; BOURBON<sup>3 10</sup>; MAURITIUS<sup>3 10</sup>; WEST AFRICA, Sierra Leone<sup>2</sup>, Senegal<sup>4</sup>; AUSTRALIA<sup>2</sup>; NEW ZEALAND<sup>2</sup>.

This species appears to be universally distributed.

## LAMPROSEMA.

*Lamprosema*, Hübner, Verz. bek. Schmett. p. 361 (1816).

### 1. *Lamprosema lunulalis*.

*Lamprosema lunulalis*, Hübner. Zutr. Samml. exot. Schmett. ii. p. 21, figg. 303, 304<sup>1</sup>; Verz. bek. Schmett. p. 361<sup>2</sup>.

*Asopia lunulalis*, Guen. Sp. gén. des Lép. viii. p. 205<sup>3</sup>; Walk. Cat. xvii. p. 368<sup>4</sup>.

*Ædiodes lunulalis*, Leder. Wien. ent. Monats. vii. p. 434<sup>5</sup>.

*Desmia pelealis*, Walk. Cat. xvii. p. 338<sup>6</sup>.

*Desmia canacealis*, Walk. loc. cit. p. 343<sup>7</sup>.

*Botys dorialis*, Walk. Cat. xviii. p. 616<sup>8</sup>.

*Botys codrusalis*, Walk. loc. cit. p. 616<sup>9</sup>.

*Botys ænippealis*, Walk. loc. cit. p. 619<sup>10</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*Schaus*), Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Balheu in Vera Paz, Pantaleon, Volcan de Atitlan (*Champion*); COSTA RICA, Rio Sucio (*Rogers*); PANAMA, Volcan de Chiriqui 2500 to 3500 feet (*Champion*).—COLOMBIA, Bogota<sup>9 10</sup>; VENEZUELA<sup>6</sup>; GUIANA, Surinam<sup>1</sup>, Pernambuco<sup>7</sup>; AMAZONS, Santarem<sup>6</sup>, Villa Nova<sup>8</sup>; BRAZIL<sup>3 4 5</sup>; ANTILLES, San Domingo<sup>6</sup>.

## HEDYLEPTA.

*Hedylepta*, Lederer, Wien. ent. Monats. vii. p. 409, t. 5. fig. 22 (1863).

### 1. *Hedylepta vulgalis*.

*Asopia vulgalis*, Guen. Sp. gén. des Lép. viii. p. 202, Delt. et Pyral. t. 6. fig. 8<sup>1</sup>; Walk. Cat. xvii. p. 364<sup>2</sup>.

BIOL. CENTR.-AMER., Heter., Vol. II., October 1895.

*Hedylepta vulgaris*, Leder. Wien. ent. Monats. vii. p. 409<sup>3</sup>; Snell. Tijdschr. voor Ent. xviii. p. 240<sup>4</sup>; Moore, Lep. Ceylon, iii. p. 276<sup>5</sup>.

*Botys mæliusalis*, Walk. Cat. xviii. p. 703<sup>6</sup>.

*Hab.* MEXICO (*Mathew, in mus. D.*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Gerónimo (*Champion*); HONDURAS (*Dyson*<sup>2</sup>); PANAMA, Volcan de Chiriqui 2500 to 3500 feet (*Champion*).—SOUTH AMERICA<sup>3</sup>; VENEZUELA<sup>2</sup>; GUIANA<sup>1</sup>; BRAZIL<sup>1</sup>; ANTILLES<sup>1</sup>, Jamaica<sup>2 4</sup>, San Domingo<sup>2</sup>.—WEST AFRICA<sup>2</sup>; CEYLON<sup>2 5</sup>; JAVA<sup>4</sup>; BORNEO<sup>6</sup>.

This very widely-distributed species varies in colour from pale yellow to dark brown. I have a large series before me, but very few of the specimens are exactly alike.

## 2. *Hedylepta dircealis*.

*Asopia dircealis*, Walk. Cat. xvii. p. 365<sup>1</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*).—ANTILLES, San Domingo<sup>1</sup>, Dominica.

The numerous specimens received from Teapa are very similar to Walker's type in the National Museum. Some examples are much darker than others.

## 3. *Hedylepta* — ?

*Hab.* MEXICO, Atoyac in Vera Cruz (*Schumann*).

One worn specimen, apparently belonging to a distinct species.

## EPICHRONISTIS.

*Epichronistis*, Meyrick, Trans. Ent. Soc. Lond. 1886, p. 260.

### 1. *Epichronistis dadalis*, sp. n. (Tab. LXII. fig. 24.)

Primaries and secondaries silky-white; the primaries with the costal margin, apex, and outer margin shaded with dusky brown, a small spot in the cell, another at the end of it, and a submarginal waved line pale brown; the secondaries crossed below the middle by a waved brown line, the apex broadly bordered with dusky brown; the fringe pale brown: head and antennæ brown, the thorax, abdomen, and legs white. Expanse  $1\frac{1}{4}$  inch.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

The few specimens received show a considerable amount of variation in the extent of the brown margins to the wings. An example from Costa Rica is figured.

### 2. *Epichronistis* (?) *cylonalis*, sp. n. (Tab. LXII. fig. 25.)

Primaries and secondaries creamy-yellow, the primaries crossed by three and the secondaries by two fine waved brown lines, the marginal line and fringe brown: head, thorax, and abdomen creamy-yellow, the antennæ pale brown. Expanse  $1\frac{3}{16}$  inch.

*Hab.* GUATEMALA, San Gerónimo (*Champion*).

Five specimens.



## SYNGAMIA.

*Syngamia*, Guenée, Sp. gén. des Léop. viii. p. 187 (1854); Walker, Cat. xvii. p. 333; Lederer, Wien. ent. Monats. vii. p. 434.

This genus is restricted by Guenée and Lederer to two Tropical-American species, one of which extends northward to Mexico.

1. *Syngamia florella*.

*Tinea florella*, Cram. Pap. Exot. iv. p. 114, t. 348. fig. L<sup>1</sup>.

*Syngamia florellalis*, Guen. Sp. gén. des Léop. viii. p. 187<sup>2</sup>; Walk. Cat. xvii. p. 333<sup>3</sup>.

*Syngamia florella*, Leder. Wien. ent. Monats. vii. p. 435<sup>4</sup>; Snell. Tijdschr. voor Ent. xviii. p. 253<sup>5</sup>.

*Anania quinqualis*, Hübn. Zutr. Samml. exot. Schmett. iii. p. 27, figg. 351, 352<sup>6</sup>; Verz. bek. Schmett. p. 360<sup>7</sup>.

*Hab.* MEXICO, Orizaba (*F. D. G.*), Rinconada in Vera Cruz (*Schaus*), Tierra Colorada in Guerrero, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Isidro, Zapote, San Gerónimo (*Champion*); HONDURAS (*Dyson*<sup>3</sup>); COSTA RICA, Candelaria Mts. (*Underwood*), Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2500 to 3500 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*; *Arcé, in mus. D.*).—SOUTH AMERICA<sup>2 4</sup>; COLOMBIA, Rio Magdalena<sup>5</sup>; VENEZUELA<sup>3</sup>; GUIANA, Surinam<sup>1</sup>; ECUADOR; AMAZONS; BRAZIL<sup>6</sup>; ANTILLES, Jamaica<sup>3</sup>, San Domingo<sup>3</sup>, Dominica.

This species shows very little variation, except in the colour of the markings—in some specimens they are pale yellow, in others orange-yellow.

2. *Syngamia dilutalis*.

*Samea dilutalis*, Walk. Cat. xxxiv. p. 1301<sup>1</sup>.

*Botys eoidalis*, Feld. & Rogenh. Reise der Novara, Lep. t. 135. fig. 14<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); HONDURAS, Limas<sup>1</sup>.—COLOMBIA, Bogota<sup>2</sup>.

One specimen from Jalapa, very similar to Walker's type of *Samea dilutalis*.

3. *Syngamia galbula*.

*Botys galbula*, Feld. & Rogenh. Reise der Novara, Lep. t. 135. fig. 20<sup>1</sup>.

*Hab.* PANAMA (*Ribbe, in mus. Staudinger*).—COLOMBIA, Bogota<sup>1</sup>; ECUADOR.

There is a specimen of this species from Chiriqui in Dr. Staudinger's collection; it is slightly paler than Felder and Rogenhofer's figure.

## DESMIA.

*Desmia*, Westwood, in Guérin's Mag. Zool. 1832, Ins. t. 2; Guenée, Sp. gén. des Léop. viii. p. 188 (part.); Walker, Cat. xvii. p. 336.

Westwood founded this genus upon *Pyrallis funeralis*, Hübn. (= *Desmia maculalis*, Westw.); it is allied to *Ædiodes*, Guen., from which it differs in the peculiarly-formed antennæ of the males.

### 1. *Desmia tages*.

*Phalæna tages*, Cram. Pap. Exot. ii. p. 2, t. 97. fig. D<sup>1</sup>.

*Hyalitis tagesalis*, Guen. Sp. gén. des Lép. viii. p. 291<sup>2</sup>.

*Desmia tagesalis*, Walk. Cat. xvii. p. 343<sup>3</sup>; Herr.-Schäff. Corr.-Blatt zool.-min. Regensb. 1871, sep. p. 64<sup>4</sup>; Snell. Tijdschr. voor Ent. xviii. p. 250<sup>5</sup>.

*Desmia tages*, Leder. Wien. ent. Monats. vii. p. 433<sup>6</sup>.

? *Phalæna funerata*, Fabr. Ent. Syst. iii. 2, p. 210<sup>7</sup>.

? *Ædiodes orbalis*, Guen. Sp. gén. des Lép. viii. p. 192<sup>8</sup>; Leder. Wien. ent. Monats. vii. p. 434<sup>9</sup>.

*Desmia orbalis*, Walk. Cat. xvii. p. 338<sup>10</sup>; Snell. Tijdschr. voor Ent. xviii. p. 251<sup>11</sup>.

*Desmia propinquialis*, Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 430, t. 18. fig. 37<sup>12</sup>.

*Hab.* MEXICO, Paso de San Juan and Rinconada in Vera Cruz (*Schaus*), Jalapa, Cuesta de Misantla (*M. Trujillo*), Dos Arroyos in Guerrero (*H. H. Smith*), Temax in North Yucatan (*Gaumer*); GUATEMALA, Zapote (*Champion*); COSTA RICA (*Van Patten*, in *mus. D.*), Volcan de Irazu 6000 to 7000 feet (*Rogers*), Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Ribbe*, in *mus. Staudinger*).—SOUTH AMERICA<sup>6</sup>; GUIANA, Cayenne<sup>8 9</sup>, Surinam<sup>2 7</sup>, Paramaribo<sup>12</sup>; AMAZONS, Ega<sup>3</sup>; BRAZIL<sup>2</sup>; ANTILLES, Cuba<sup>4</sup>, Jamaica<sup>10 11</sup>, San Domingo<sup>10</sup>.

A common species in our region. It varies in size, and also in the form of the spots and bands on the secondaries.

### 2. *Desmia geminalis*.

*Desmia geminalis*, Snell. Tijdschr. voor Ent. xviii. p. 249, t. 14. fig. 5<sup>1</sup>.

*Ædiodes vulcanalis*, Feld. & Rogenh. Reise der Novara, Lep. t. 135. fig. 40<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Atoyac in Vera Cruz (*Schumann*); GUATEMALA, Cerro Zunil 4000 to 5000 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Chiriqui (*Arcé*<sup>2</sup>; *Ribbe*, in *mus. Staudinger*), Veraguas (*Mus. Vind. Cæs.*<sup>2</sup>).—COLOMBIA.

A well-marked species, of which we have received a few specimens from within our limits. The exact locality for *D. geminalis* is not given by Snellen<sup>1</sup>.

### 3. *Desmia funeralis*?

*Pyralis funeralis*, Hübn. Europ. Schmett. vi., Pyral. fig. 103<sup>1</sup>.

*Anania funeralis*, Hübn. Verz. bek. Schmett. p. 360<sup>2</sup>.

*Desmia funeralis*, Guen. Sp. gén. des Lép. viii. p. 190<sup>3</sup>; Walk. Cat. xvii. p. 337<sup>4</sup>; Leder. Wien. ent. Monats. vii. p. 433<sup>5</sup>.

*Desmia maculalis*, Westw. in Guérin's Mag. Zool. 1832, Ins. t. 2<sup>6</sup>; Guen. Sp. gén. des Lép. viii. p. 189<sup>7</sup>.

*Hab.* NORTH AMERICA<sup>7</sup>, Canada<sup>4</sup>, Nova Scotia<sup>4 6</sup>, United States<sup>4</sup>.—MEXICO, Jalapa (*M. Trujillo*), Rinconada in Vera Cruz (*Schaus*).

Two specimens from Mexico, both females, very similar to Hübner's and Westwood's figures.



4. *Desmia ufeus*?

*Phalena ufeus*, Cram. Pap. Exot. ii. p. 2, t. 97. fig. E<sup>1</sup>.

*Hyalitis ufealis*, Guen. Sp. gén. des Lép. viii. p. 291<sup>2</sup>.

*Desmia ufealis*, Walk. Cat. xvii. p. 343<sup>3</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Isidro (*Champion*).—GUIANA, Surinam<sup>1 3</sup>; BRAZIL, Rio Janeiro.

This insect may be, as suggested by Walker<sup>3</sup>, a variety of *D. tages* (Cram.), but I have both sexes of it from Rio Janeiro in my own collection.

## ÆDIODES.

*Ædiodes*, Guenée, Sp. gén. des Lép. viii. p. 191 (1854); Walker, Cat. xvii. p. 347; Lederer, Wien. ent. Monats. vii. p. 433.

1. *Ædiodes intermicalis*.

*Ædiodes intermicalis*, Guen. Sp. gén. des Lép. viii. p. 192<sup>1</sup>; Leder. Wien. ent. Monats. vii. p. 434<sup>2</sup>.

*Desmia intermicalis*, Walk. Cat. xvii. p. 342<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, Panima in Vera Paz, Cerro Zunil 4000 to 5000 feet, Las Mercedes (*Champion*); COSTA RICA, Santa Clara Valley (*Zürcher*), Candelaria Mts. (*Underwood*), Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ECUADOR; GUIANA, Cayenne<sup>2</sup>; BRAZIL<sup>1 3</sup>.

Apparently a common species in our region. It varies in size, and in the distinctness of the spots on the wings. Our specimens agree with one named as above in Dr. Staudinger's collection.

2. *Ædiodes* (?) *unipunctalis*, sp. n. (Tab. LXII. fig. 26.)

*Male.* Primaries and secondaries uniformly glossy pale purplish-brown, the primaries with a round white spot at the end of the cell; the underside slightly paler than above: head, antennæ, thorax, abdomen, and legs brown. Expanse  $1\frac{3}{10}$  inch.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen.

3. *Ædiodes funebris*.

*Desmia funebris*, Guen. Sp. gén. des Lép. viii. p. 189<sup>1</sup>; Walk. Cat. xvii. p. 340<sup>2</sup>.

*Ædiodes funebris*, Leder. Wien. ent. Monats. vii. p. 434<sup>3</sup>.

*Desmia notalis*, Feld. & Rogenh. Reise der Novara, Lep. t. 136. fig. 4<sup>4</sup>.

*Hab.* MEXICO, Atoyac in Vera Cruz (*Schumann*); GUATEMALA, Panima and San Juan in Vera Paz, Zapote, Cerro Zunil 4000 to 5000 feet (*Champion*); HONDURAS (*Dyson*<sup>2</sup>); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Bugaba, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*), Panama city (*J. J. Walker*).—AMAZONS<sup>4</sup>, Villa Nova<sup>2</sup>, Ega<sup>2</sup>; BRAZIL<sup>1 3</sup>.

This widely-distributed species varies greatly in size, but in other respects it appears

to be pretty constant in our region. The specimens from Mexico and Panama are much smaller than those from Guatemala and Costa Rica.

#### 4. *Ædiodes ploralis*.

*Ædiodes ploralis*, Guen. Sp. gén. des Lép. viii. p. 192<sup>1</sup>; Leder. Wien. ent. Monats. vii. p. 434<sup>2</sup>.

*Desmia ploralis*, Walk. Cat. xvii. p. 342<sup>3</sup>.

*Hab.* MEXICO, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Panima in Vera Paz, Volcan de Atitlan 2500 to 3500 feet (*Champion*); COSTA RICA, Candelaria Mts. (*Underwood*).—GUIANA, Cayenne<sup>1 2 3</sup>; BRAZIL<sup>1 2 3</sup>.

Only a few specimens of this small species have been received.

#### 5. *Ædiodes nerinalis*.

*Desmia nerinalis*, Walk. Cat. xix. p. 928<sup>1</sup>.

*Hab.* MEXICO, Atoyac in Vera Cruz, Amula in Guerrero 6000 feet (*H. H. Smith*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—BRAZIL<sup>1</sup>.

The type of this species is now in the Oxford Museum. Our specimens are very similar to it.

### MESOCONDYLA.

*Mesocondyla*, Lederer, Wien. ent. Monats. vii. p. 392, t. 5. figg. 2, 27 (1863).

#### 1. *Mesocondyla stigmatalis*.

*Mesocondyla stigmatalis*, Leder. Wien. ent. Monats. vii. p. 392, t. 13. fig. 3<sup>1</sup>.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).—BRAZIL<sup>1</sup>.

One specimen, rather larger than Lederer's figure.

### SYLLEPIS.

*Syllepis*, Poey, Cent. Lép. de Cuba, 1<sup>re</sup> Décade, tab. (1832); Snellen, Tijdschr. voor Ent. xviii. p. 237 (1875).

#### 1. *Syllepis marialis*.

*Syllepis marialis*, Poey, loc. cit.<sup>1</sup>.

*Botys marialis*, Guen. Sp. gén. des Lép. viii. p. 346<sup>2</sup>.

*Asopia marialis*, Leder. Wien. ent. Monats. vii. p. 343<sup>3</sup>.

*Botys hortalis*, Walk. Cat. xviii. p. 609<sup>4</sup>.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Chiriqui (*Trötsch, in mus. Staudinger*).—COLOMBIA, Bogota<sup>4</sup>; AMAZONS, Santarem<sup>4</sup>; ANTILLES, Cuba<sup>1 2 3</sup>.

One specimen from each locality. From Colombia and Ecuador I have a long series of a closely-allied species, described by Snellen under the name of *Syllepis latifascialis*.



## FILODES.

*Filodes*, Guenée, Sp. gén. des Lép. viii. p. 317 (1854); Lederer, Wien. ent. Monats. vii. p. 390, t. 4. fig. 23.

1. *Filodes hesusalis*.

*Botys hesusalis*, Walk. Cat. xviii. p. 642<sup>1</sup>.

*Filodes* (?) *hesusalis*, Leder. Wien. ent. Monats. vii. p. 391, t. 12. fig. 15<sup>2</sup>.

*Hab.* GUATEMALA, Dueñas, San Gerónimo, Purula (*Champion*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA (*Ribbe, in mus. Staudinger*).—WEST AFRICA, Sierra Leone<sup>1 2</sup>.

Central-American specimens do not differ from Walker's type, which is stated<sup>1</sup> to come from Sierra Leone. Lederer's figure also agrees with our insect.

2. *Filodes augustalis*.

*Botys augustalis*, Feld. & Rogenh. Reise der Novara, Lep. t. 134. fig. 26<sup>1</sup>.

*Hab.* MEXICO, near Durango city (*Becker*), Cuernavaca in Morelos (*Bilimek*<sup>1</sup>, *H. H. Smith*), Hacienda de la Imagen and Amula in Guerrero (*H. H. Smith*); GUATEMALA, San Gerónimo (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

3. *Filodes pucilla*, sp. n. (Tab. LXII. fig. 27.)

*Male.* Primaries bluish-black, crossed in the middle from the costal to the inner margin by a wide yellow band; secondaries bright yellow, broadly bordered with bluish-black from the apex to the anal angle; the fringe yellow: head, thorax, abdomen, and legs bright yellow, the anus black; the antennæ white from the tip to beyond the middle, then black to the base. Expanse  $\frac{3}{4}$  inch.

*Hab.* GUATEMALA, San Juan in Vera Paz (*Champion*).

One specimen.

## CINDAPHIA.

*Cindaphia*, Lederer, Wien. ent. Monats. vii. p. 438 (1863).

1. *Cindaphia bicoloralis*.

*Asopia bicoloralis*, Guen. Sp. gén. des Lép. viii. p. 205<sup>1</sup>; Walk. Cat. xvii. p. 364<sup>2</sup>.

*Cindaphia incensalis*, Leder. Wien. ent. Monats. vii. p. 439, t. 17. fig. 8<sup>3</sup>.

*Endotricha julialis*, Walk. Cat. xvii. p. 389<sup>4</sup>.

*Botis facetalis*, Berg, Bull. Mosc. xlix. 2, p. 224<sup>5</sup>.

*Hab.* NORTH AMERICA<sup>1 2</sup>.—MEXICO, Presidio (*Forrer*), Rinçonada in Vera Cruz (*Schaus*), Atoyac in Vera Cruz (*H. H. Smith*); GUATEMALA, San Gerónimo and Lanquin in Vera Paz (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*), Candelaria Mts. (*Underwood*); PANAMA, Caldera in Chiriqui (*Champion*).—ECUADOR; AMAZONS; BRAZIL<sup>1 2 3 4</sup>; PATAGONIA<sup>5</sup>.

Specimens from our region are considerably larger than those from the Amazons.

## RHECTOSEMIA.

*Rhectosemia*, Lederer, Wien. ent. Monats. vii. pp. 414, 512 (1863).

1. *Rhectosemia multifarialis*.

*Rhectosemia multifarialis*, Leder. Wien. ent. Monats. vii. p. 415, t. 15. fig. 7<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).—VENEZUELA<sup>1</sup>.

I have seen two specimens of this species from our region—a worn male from Mexico, and a female from Costa Rica; the latter is rather brighter in colour than Lederer's figure.

2. *Rhectosemia argentipunctalis*, sp. n. (Tab. LXII. figg. 28, 29.)

Primaries dark brown, reddish-brown along the inner margin, with three V-shaped silvery marks on the costal margin—the first close to the base, almost reaching the inner margin, the second small, the third large and extending to the end of the cell,—several silvery-white spots below the end of the cell, and a fine metallic submarginal line extending from the costal margin to the anal angle, four silvery-white spots on the outer margin below the apex, the fringe brown; secondaries pale brown, with a faint waved line across the middle, the marginal line yellowish-brown, the fringe dark brown; the underside of the primaries yellowish-brown near the apex: head, thorax, and abdomen very dark brown, the legs brown. Expanse 1½ inch.

*Hab.* MEXICO, Rinconada in Vera Cruz (*coll. Schaus*); GUATEMALA (*Conradt, in mus. Staudinger*).

Two specimens. The one from Mexico is without abdomen and very worn; it appears to have more yellow at the apex of the primaries than the Guatemalan example. The latter is figured.

## LINEODES.

*Lineodes*, Guenée, Sp. gén. des Léop. viii. p. 234 (1854); Walker, Cat. xvii. p. 409; Lederer, Wien. ent. Monats. vii. p. 417, t. 3. fig. 13.

1. *Lineodes hieroglyphalis*.

*Lineodes hieroglyphalis*, Guen. Sp. gén. des Léop. viii. p. 235, Delt. et Pyral. t. 3. fig. 6<sup>1</sup>; Walk. Cat. xvii. p. 409<sup>2</sup>.

*Lineodes hieroglyphicalis*, Leder. Wien. ent. Monats. vii. p. 417<sup>3</sup>.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*), Candelaria Mts. (*Underwood*).—BRAZIL<sup>1 2 3</sup>.

Four specimens, very similar to Guenée's figure.

2. *Lineodes contortalis*.

*Lineodes contortalis*, Guen. Sp. gén. des Léop. viii. p. 236<sup>1</sup>; Walk. Cat. xvii. p. 410<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 417<sup>3</sup>.



*Hab.* MEXICO, Jalapa (*M. Trujillo*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).  
—BRAZIL <sup>1 2 3</sup>.

Two specimens.

### 3. *Lineodes serpulalis*?

*Lineodes serpulalis*, Leder. Wien. ent. Monats. vii. pp. 417, 480, t. 15. fig. 8 <sup>1</sup>.

*Hab.* MEXICO, Presidio (*Forrer*).—BRAZIL <sup>1</sup>.

One worn specimen from Presidio, perhaps belonging to this species.

## LEUCINODES.

*Leucinodes*, Guenée, Sp. gén. des Lép. viii. p. 221 (1854); Walker, Cat. xvii. p. 392.

### 1. *Leucinodes elegantalis*.

*Leucinodes elegantalis*, Guen. Sp. gén. des Lép. viii. p. 222, Delt. et Pyral. t. 3. fig. 8 <sup>1</sup>; Walk. Cat. xvii. p. 393 <sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 440 <sup>3</sup>.

*Leucinodes imperialis*, Guen. Sp. gén. des Lép. viii. p. 223 <sup>4</sup>; Walk. Cat. xvii. p. 393 <sup>5</sup>; Leder. Wien. ent. Monats. vii. p. 440 <sup>6</sup>; Warr. Trans. Ent. Soc. Lond. 1889, p. 272 <sup>7</sup>.

*Leucinodes* (?) *discerptalis*, Walk. Cat. xxxiv. p. 1313 <sup>8</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Gerónimo and Panima in Vera Paz (*Champion*); HONDURAS, Limas <sup>8</sup>; COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui (*Champion*), Chiriqui (*Trötsch, in mus. Staudinger*).—AMAZONS <sup>7</sup>; BRAZIL <sup>1 3</sup>, Rio Janeiro <sup>2</sup>; ANTILLES, Haiti <sup>4 5 6</sup>.

Varies in size and in the colour of the markings on the primaries.

## ASCIODES.

*Asciodes*, Guenée, Sp. gén. des Lép. viii. p. 374 (1854); Walker, Cat. xviii. p. 760; Lederer, Wien. ent. Monats. vii. p. 411.

### 1. *Asciodes gordialis*.

*Asciodes gordialis*, Guen. Sp. gén. des Lép. viii. p. 374, Delt. et Pyral. t. 5. fig. 10 <sup>1</sup>; Walk. Cat. xviii. p. 761 <sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 411 <sup>3</sup>.

*Hab.* MEXICO, Presidio (*Forrer*), Paso de San Juan in Vera Cruz (*coll. Schaus*).—GUIANA, Cayenne <sup>1 3</sup>; S.E. BRAZIL.

In some specimens of this species the primaries are heavily spotted and marked with brown, and in others they are almost without markings.

## LEUCOCHROMA.

*Leucochroma*, Guenée, Sp. gén. des Lép. viii. p. 286 (1854); Walker, Cat. xvii. p. 491.

### 1. *Leucochroma splendidalis*.

*Phalæna Pyralis splendidalis*, Cram. Pap. Exot. iv. p. 161, t. 371. fig. L<sup>1</sup>.

*Epipagis splendidalis*, Hübn. Verz. bek. Schmett. p. 358<sup>2</sup>.

*Leucochroma splendidalis*, Guen. Sp. gén. des Lép. viii. p. 287<sup>3</sup>; Walk. Cat. xvii. p. 491<sup>4</sup>.

*Botys splendidalis*, Leder. Wien. ent. Monats. vii. p. 371<sup>5</sup>.

*Botys selectalis*, Walk. Cat. xxxiv. p. 1396<sup>6</sup>.

*Leucochroma minoralis*, Warr. Trans. Ent. Soc. Lond. 1889, p. 267<sup>7</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*Schaus*); HONDURAS<sup>4</sup>, Ruatan I. (*Gaumer*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA, Bogota<sup>6</sup>; ECUADOR; GUIANA; Surinam<sup>3</sup>, Cayenne<sup>3</sup>; AMAZONS<sup>7</sup>; ANTILLES, San Domingo<sup>4</sup>.

In some specimens of this species the yellow markings on the wings are very faint.

### 2. *Leucochroma prosalis*, sp. n. (Tab. LXII. fig. 30.)

Primaries and secondaries yellowish-white, the primaries with the base and the inner margin spotted with yellowish-brown, a large yellowish-brown patch extending across the wing near the apex almost to the anal angle, on the outer edge of which is a pale waved line, the marginal line spotted with black; the secondaries with several dark brown spots partly crossing the wing from the anal angle; the fringe yellowish: head, antennæ, thorax, abdomen, and legs yellowish-white. Expanse 1 inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen.

### 3. *Leucochroma saltigalis*, sp. n. (Tab. LXII. fig. 31.)

Primaries and secondaries silky-white; the primaries spotted with yellow at the base and in the cell, the outer margin broadly bordered with yellowish-brown, the border paler near the apex and preceded by a waved dark brown line, which crosses the wing from the costal to the inner margin, the marginal line spotted with black at the apex, the fringe pale brown; the secondaries crossed about the middle by a row of yellow spots, and with a submarginal waved brown line extending partly across the wing from near the apex, but not reaching the anal angle, a small black spot on the anal angle, and a black marginal line at the apex, the fringe white, yellowish at the apex: head, antennæ, abdomen, and legs white; the thorax white, spotted with yellow. Expanse 1½ inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen of this very distinct and beautiful species is contained in Dr. Staudinger's collection. It is allied to *L. splendidalis* (Cr.).

### 4. *Leucochroma* (?) *ruscialis*, sp. n. (Tab. LXIII. fig. 1.)

Primaries and secondaries semihyaline white; the primaries with a spot on the costal margin and one on the inner margin, both close to the base, two lines in the cell and one below it, a large spot near the anal angle, and a spot on the outer margin, black, a curved black line extending from the costal margin to the anal angle; the secondaries with a small black streak on the middle of the outer margin and a small black dot on the inner margin above the anal angle: head, antennæ, thorax, abdomen, and legs white. Expanse 1⅔ inch.

*Hab.* PANAMA (*Boucard, in mus. D.*), Chiriqui (*Arcé, in mus. D.*).

This species is quite unlike any other known to me.



## SPILODES.

*Spilodes*, Guenée, Sp. gén. des Lép. viii. p. 379 (1854); Walker, Cat. xviii. p. 766.

1. *Spilodes helvialis*.

*Spilodes helvialis*, Walk. Cat. xviii. p. 772<sup>1</sup>.

*Hab.* NORTH AMERICA, United States<sup>1</sup>.—MEXICO, Presidio (*Forrer*), Coatepec (*Schaus*); GUATEMALA, San Gerónimo (*Champion*).

A few specimens, agreeing with Walker's type in the National Museum.

## GLAPHYRIA.

*Glaphyria*, Hübner, Verz. bek. Schmett. p. 357 (1816).

*Homophysa*, Guenée, Sp. gén. des Lép. viii. p. 364.

1. *Glaphyria sulphuralis*.

*Phalæna Pyralis sulphuralis*, Cram. Pap. Exot. iv. p. 113, t. 348. fig. E<sup>1</sup>.

*Homophysa sulphuralis*, Guen. Sp. gén. des Lép. viii. p. 365<sup>2</sup>; Walk. Cat. xviii. p. 751<sup>3</sup>; Leder.

Wien. ent. Monats. vii. p. 455<sup>4</sup>.

*Homophysa sulphuralis*, Warr. Trans. Ent. Soc. Lond. 1889, p. 267<sup>5</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*), Teapa in Tabasco (*H. H. Smith*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—GUIANA, Surinam<sup>1 2 3</sup>, Cayenne<sup>2 4</sup>; AMAZONS<sup>5</sup>.

We have received a few specimens of this species from Central America. From the Amazons I have a long series, showing considerable variation in colour, some examples being very pale and others deep yellow.

2. *Glaphyria sesquialis*.

*Glaphyria sesquialis*, Hübn. Zutr. Samml. exot. Schmett. ii. p. 29, figg. 369, 370<sup>1</sup>.

*Homophysa sesquialis*, Guen. Sp. gén. des Lép. viii. p. 366<sup>2</sup>; Walk. Cat. xviii. p. 751<sup>3</sup>; Leder.

Wien. ent. Monats. vii. p. 455<sup>4</sup>; Zell. Verh. zool.-bot. Ges. Wien, 1872, p. 524<sup>5</sup>.

*Zebronia* (?) *dimotalis*, Walk. Cat. xxxiv. p. 1346<sup>6</sup>.

*Hab.* NORTH AMERICA<sup>4</sup>, Pennsylvania<sup>1 3</sup>, Georgia<sup>2</sup>, Texas<sup>5</sup>.—HONDURAS (*Dyson*<sup>6</sup>).

3. *Glaphyria teneralis*.

*Zebronia* (?) *teneralis*, Walk. Cat. xxxiv. p. 1345<sup>1</sup>.

*Hab.* HONDURAS, Limas<sup>1</sup>.

## CROCHIPHORA.

*Crochiphora*, Geyer, in Hübner's Zutr. Samml. exot. Schmett. iv. p. 12, figg. 629, 630 (1832).

*Maruca*, Walker, Cat. xviii. p. 540 (1859).

*Siriocauta*, Lederer, Wien. ent. Monats. vii. p. 424 (1863).

The only species included in this genus is found all over the globe.

2 mm 2

### 1. *Crochiphora testulalis*.

*Crochiphora testulalis*, Geyer, in Hübner's Zutr. Samml. exot. Schmett. iv. p. 12, figg. 629, 630<sup>1</sup>;

Warr. Trans. Ent. Soc. Lond. 1889, p. 290<sup>2</sup>.

*Stenia testulalis*, Guen. Sp. gén. des Léop. viii. p. 247<sup>3</sup>; Walk. Cat. xvii. p. 420<sup>4</sup>.

*Siriocauta testulalis*, Leder. Wien. ent. Monats. vii. p. 424<sup>5</sup>.

*Botys testulalis*, Zell. Kongl. Vet.-Ak. Handl. 1852, p. 46<sup>6</sup>.

*Hydrocampa aquatilis*, Boisd. in Guérin's Icon. du Règne Anim., Ins. iii. p. 524, t. 90. fig. 9<sup>7</sup>.

*Maruca aquatilis*, Walk. Cat. xviii. p. 540<sup>8</sup>.

? *Siriocauta* (?) *amboinalis*, Feld. & Rogenh. Reise der Novara, Lep. t. 135. fig. 24<sup>9</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Coatepec (*Schaus*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); HONDURAS<sup>8</sup>; COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*), Candelaria Mts. (*Underwood*).—SOUTH AMERICA<sup>5</sup>, Bogota<sup>8</sup>, Cayenne<sup>3 4</sup>, Villa Nova<sup>8</sup>, Buenos Ayres<sup>1 4</sup>; INDIA<sup>8</sup>; CEYLON<sup>8</sup>; BORNEO; JAVA<sup>7</sup>; AMBOYNA<sup>5 9</sup>; SOUTH AFRICA<sup>5 6</sup>; AUSTRALIA, Moreton Bay<sup>8</sup>.

I have specimens of this species before me from all parts of the world. It varies very little except in size. The insect is not uncommon in Central America.

### ASOPIA.

*Asopia*, Guenée, Sp. gén. des Léop. viii. p. 202 (1854); Walker, Cat. xvii. p. 363.

#### 1. *Asopia phærusalis*.

*Asopia phærusalis*, Walk. Cat. xvii. p. 368<sup>1</sup>.

*Hab.* HONDURAS<sup>1</sup>.

The only specimen I have seen of this species is the type in the National Museum.

### BLEPHAROMASTIX.

*Blepharomastix*, Lederer, Wien. ent. Monats. vii. p. 422 (1863).

#### 1. *Blepharomastix colubralis*.

*Stenia colubralis*, Guen. Sp. gén. des Léop. viii. p. 242<sup>1</sup>; Walk. Cat. xvii. p. 418<sup>2</sup>.

*Blepharomastix colubralis*, Leder. Wien. ent. Monats. vii. p. 423<sup>3</sup>.

*Blepharomastix colubralis*, Warr. Trans. Ent. Soc. Lond. 1889, p. 291<sup>4</sup>.

*Botys electralis*, Walk. Cat. xviii. p. 600<sup>5</sup>.

*Botys* (?) *cirrosalis*, Feld. & Rogenh. Reise der Novara, Lep. t. 135. fig. 37<sup>6</sup>.

*Hab.* MEXICO, Jalapa (*Schaus*), Omilteme in Guerrero 8000 feet (*H. H. Smith*); GUATEMALA, Cubilguitz in Vera Paz (*Champion*); COSTA RICA, Caché, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Bugaba, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).—GUIANA, Cayenne<sup>1 2 3</sup>; AMAZONS<sup>4 6</sup>, Ega<sup>5</sup>.

Central-American specimens vary in size and in the distinctness of the brown costal



margin of the primaries—in some specimens it is quite dark, and in others almost wanting.

2. **Blepharomastix gigantalis**, sp. n. (Tab. LXIII. fig. 5.)

*Male*. Primaries and secondaries silky-white, the primaries with the costal margin brown, and a small spot in the cell and a faint line at the end of it pale brown; the fringe white: head, antennæ, thorax, and legs white; the abdomen black above, white beneath. Expanse  $1\frac{1}{2}$  inch.

*Hab*. GUATEMALA, Sinanja in Vera Paz (*Champion*).

One specimen. This is the largest species of the genus known to me.

3. **Blepharomastix** — ?

*Hab*. GUATEMALA, Cerro Zunil 4000 to 5000 feet (*Champion*).

Several worn specimens that I cannot identify with certainty.

4. **Blepharomastix impuralis**.

*Cindaphia impuralis*, Snell. Tijdschr. voor Ent. xviii. p. 254, t. 14. fig. 10<sup>1</sup>.

*Hab*. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—COLOMBIA<sup>1</sup>.

One specimen, very similar to Snellen's figure.

5. **Blepharomastix terricolalis**.

*Botis terricolalis*, Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 424<sup>1</sup>.

*Hab*. COSTA RICA, Volcan de Irazu 6000 to 7000 feet, Rio Sucio (*Rogers*), Candelaria Mts. (*Underwood*).—GUIANA, Paramaribo<sup>1</sup>.

Apparently a common species in Costa Rica. It varies in size.

6. **Blepharomastix cæneusalis**.

*Botys cæneusalis*, Walk. Cat. xviii. p. 604<sup>1</sup>.

*Hab*. HONDURAS (*Dyson*<sup>1</sup>).

The only specimen I have seen of this species is the type in the British Museum.

7. **Blepharomastix pulverulalis**, sp. n. (Tab. LXIII. fig. 2.)

*Male*. Primaries and secondaries very pale greyish-brown, the primaries crossed from the costal to the inner margin by three, and the secondaries by two, fine waved darker brown lines, the fringe greyish brown: head, thorax, and abdomen greyish, the legs white. Expanse 1 inch.

*Hab*. MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Gerónimo (*Champion*); PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

The specimen from Chiriqui is darker than any of the others; one from Guatemala is figured.

8. **Blepharomastix datisalis**, sp. n. (Tab. LXIII. fig. 3.)

*Male*. Primaries and secondaries pale brown; the primaries with the costal margin dark brown, three fine dark brown lines crossing the wing from the costal to the inner margin—the first close to the base, straight,

the second about the middle, waved, and divided into two at the end of the cell, and the third midway between the second and the apex, straight, not quite reaching the anal angle,—a small round spot in the cell and the marginal line brown, the fringe pale brown; the secondaries crossed by two fine brown lines, the marginal line and the fringe brown: head, antennæ, thorax, abdomen, and legs brown. Expanse 1 inch.

*Hab.* MEXICO, Cuernavaca in Morelos (*H. H. Smith*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Three specimens; the one in Dr. Staudinger's collection is smaller than either of the others from Mexico.

9. **Blepharomastix romalis**, sp. n. (Tab. LXIII. fig. 4, ♂.)

*Male.* Primaries and secondaries pale dove-colour, crossed by an indistinct narrow darker waved line; the primaries with the costal margin pale yellow from the base almost to the apex, and with a rather wide white streak at the end of the cell, the fringe pale greyish: head, thorax, and abdomen dove-colour, the legs white.—*Female.* Very similar to the male, but with the line crossing the wings more distinct, and edged with white on the primaries, the latter not bordered with yellow on the costal margin. Expanse, ♂  $\frac{3}{4}$ , ♀ 1 inch.

*Hab.* PANAMA, Chiriqui (*Trötsch & Ribbe, in mus. Staudinger*).

Two specimens, one of each sex. This species somewhat resembles *Diathrausta profundalis*, Leder., from Amboyna.

10. **Blepharomastix (?) demantrialis**, sp. n. (Tab. LXIII. fig. 6, ♂.)

*Male.* Primaries and secondaries glossy-brown, the primaries darker than the secondaries and irrorated with darker scales near the base, the fringe brown: head, antennæ, thorax, abdomen, and legs dark brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*); GUATEMALA, San Gerónimo, Dueñas (*Champion*).

Four specimens; one from Amula is figured.

11. **Blepharomastix sagralis**, sp. n. (Tab. LXIII. fig. 7, ♂.)

*Male.* Primaries and secondaries pale primrose-yellow, thickly irrorated with brown scales; the primaries with a dark brown waved line extending from the costal margin near the apex to the anal angle, the marginal line dark brown, the fringe alternately brown and yellow; the secondaries crossed below the middle by a fine brown line, the fringe brown: head, thorax, and abdomen yellowish-white, irrorated with brown scales, the legs yellowish-white. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

A few specimens; one from Teapa is figured.

12. **Blepharomastix coatepecensis**, sp. n. (Tab. LXIII. fig. 8.)

Primaries and secondaries pale brownish-white, the primaries crossed from the costal to the inner margin by three, and the secondaries by two, waved brown lines, the marginal line dark brown, the fringe greyish-brown: head, thorax, abdomen, and legs greyish-brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Coatepec (*coll. Schaus*).

One specimen. Allied to *B. datialis*, of which it may prove to be an extreme form.



13. **Blepharomastix crusalis**, sp. n. (Tab. LXIII. fig. 9, ♂.)

*Male*. Primaries and secondaries pale fawn-colour; the primaries edged with brown along the costal margin, a spot in the cell and three bands crossing the wing dark brown, the third band not extending to the anal angle; the secondaries crossed by two brown bands, the marginal line spotted with brown; the fringe pale brown; the underside very much as above: head, antennæ, and thorax brown, the abdomen brownish-fawn-colour. Expanse 1 inch.

*Hab.* MEXICO, Rinconada in Vera Cruz (*coll. Schaus*).

One specimen.

MARASMIA.

*Marasmia*, Lederer, Wien. ent. Monats. vii. p. 385, t. 2. fig. 14 (1863).

The type of this genus is *M. cicatricosa*, Leder. (?=*Botys ruralis*, Walk.), from Java.

1. **Marasmia tytiusalis**.

*Botys tytiusalis*, Walk. Cat. xviii. p. 605<sup>1</sup>; xix. p. 984<sup>2</sup>.

*Hab.* HONDURAS (*Dyson*<sup>1</sup>).—BRAZIL, Rio Janeiro<sup>2</sup>.

OMMATOSPILA.

*Ommatospila*, Lederer, Wien. ent. Monats. vii. p. 443 (1863).

1. **Ommatospila nummulalis**.

*Ommatospila nummulalis*, Leder. Wien. ent. Monats. vii. p. 444, t. 17. fig. 13<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—BRAZIL<sup>1</sup>.

One worn specimen, probably belonging to this species.

EURRHYPARODES.

*Eurrhypoarodes*, Snellen, Tijdschr. voor Ent. xxiii. p. 215 (1880).

1. **Eurrhypoarodes splendens**, sp. n. (Tab. LXIII. fig. 10.)

*Male*. Primaries dark brown, crossed by three fine waved yellowish-white lines, the third line submarginal, the outer margin and part of the inner margin broadly bordered with a metallic steel-blue band, the fringe alternately dark brown and white; secondaries crossed from the costal to the inner margin by two yellowish-white lines, beyond which is a third waved line, the latter not reaching the outer margin, the outer and inner margins broadly bordered with metallic steel-blue, the fringe brown and white; the underside paler than above, and without metallic markings: head, antennæ, thorax, and abdomen dark brown, the latter crossed at the base by a yellowish-white band, and with each of the segments edged with yellowish-white; the legs brownish white. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, San Blas (*J. J. Walker*), Jalapa (*M. Trujillo*), Atoyac in Vera Cruz, Cuernavaca in Morelos, Tierra Colorada in Guerrero (*H. H. Smith*), Temax in North Yucatan (*Gaumer*); GUATEMALA, San Gerónimo, Cahabon (*Champion*).

Of this beautiful species we have received a considerable number of specimens, varying in size and in the extent of the metallic margin to the wings.

In some examples the metallic scales are almost obliterated, only just showing in

fine streaks; in others they form a broad and distinct marginal band. We figure a specimen from Atoyac.

#### CATACLYSTA.

*Cataclysta*, Hübner, Verz. bek. Schmett. p. 363 (1816); Guenée, Sp. gén. des Lép. viii. p. 263; Walker, Cat. xvii. p. 435.

##### 1. *Cataclysta opulentalis*.

*Cataclysta opulentalis*, Leder. Wien. ent. Monats. vii. pp. 453, 486, t. 18. fig. 7<sup>1</sup>.

? *Cataclysta fulicalis*, Clemens, Proc. Acad. Phil. 1860, p. 217<sup>2</sup>.

*Hab.* NORTH AMERICA<sup>1</sup>, Pennsylvania<sup>2</sup>.—MEXICO, Teapa in Tabasco (*H. H. Smith*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Obispo (*Salvin, in mus. D.*).

This species is closely allied to *C. æalis*, Walk.

##### 2. *Cataclysta premalis*, sp. n. (Tab. LXIII. fig. 11.)

Primaries and secondaries silky-white; the primaries crossed from the costal to the inner margin by narrow yellow lines, which are somewhat broken near the apex, the outer margin pale yellow; the secondaries crossed by faint yellow lines, the outer margin black with metallic silvery spots: head, thorax, and abdomen white, the antennæ yellow. Expanse  $\frac{1}{2}$  inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*).

Five specimens, showing considerable variation in the distinctness of the yellow lines on the primaries.

##### 3. *Cataclysta æalis*. (Tab. LXIII. fig. 12.)

*Cataclysta æalis*, Walk. Cat. xix. p. 953<sup>1</sup>.

*Cataclysta gemmiferalis*, Leder. Wien. ent. Monats. vii. pp. 454, 487, t. 18. fig. 8<sup>2</sup>; Walk. Cat. xxxiv. p. 1333<sup>3</sup>.

*Hab.* MEXICO, Presidio (*Forrer*), Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Obispo (*Salvin, in mus. D.*).—VENEZUELA<sup>2 3</sup>; BRAZIL, Rio Janeiro<sup>1</sup>, Recife.

We have received a long series of this species from our region. I also possess examples captured by Mr. Forbes at Recife, South-east Brazil.

##### 4. *Cataclysta divulsalis*. (Tab. LXIII. fig. 13.)

*Cataclysta divulsalis*, Walk. Cat. xxxiv. p. 1336<sup>1</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, near the city (*Salvin, in mus. D.*).—AMAZONS, Ega<sup>1</sup>.

Three specimens from Guatemala and four from Mexico, agreeing with the type in the National Museum.

##### 5. *Cataclysta annulalis*.

*Cataclysta annulalis*, Guen. Sp. gén. des Lép. viii. p. 266<sup>1</sup>; Walk. Cat. xvii. p. 440<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 454<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Atoyac in Vera Cruz (*H. H. Smith*); GUATEMALA,



Las Mercedes, Cerro Zunil (*Champion*); HONDURAS (*Dyson*<sup>2</sup>); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*), Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—VENEZUELA<sup>2</sup>; BRAZIL<sup>1 3</sup>.

#### 6. *Cataclysta cerrussalis*.

*Cataclysta cerrussalis*, Feld. & Rogenh. Reise der Novara, Lep. t. 136. fig. 8<sup>1</sup>.

*Hab.* MEXICO, Durango, Presidio (*Forrer*), Jalapa (*M. Trujillo*), Orizaba (*F. D. G.*), Atoyac in Vera Cruz (*H. H. Smith, Schumann*), Cuernavaca in Morelos, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Zapote, Cahabon, San Gerónimo (*Champion*); COSTA RICA, Caché, Volcan de Irazu 6000 to 7000 feet (*Rogers*), Santa Clara Valley (*Zürcher*); PANAMA, Volcan de Chiriqui 3000 to 4000 feet, David (*Champion*).—COLOMBIA, Bogota<sup>1</sup>.

A common species in Central America. It varies in size and colour. The Costa Rica specimens are a little darker than those from elsewhere.

#### 7. *Cataclysta catenalis*.

*Cataclysta catenalis*, Guen. Sp. gén. des Lép. viii. p. 267<sup>1</sup>; Walk. Cat. xvii. p. 440<sup>2</sup>; Leder. Wien. ent. Monats. vii. p. 454, t. 18. fig. 9<sup>3</sup>.

*Hab.* MEXICO, Omilteme in Guerrero 8000 feet (*H. H. Smith*); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).—BRAZIL<sup>1 2 3</sup>.

I have seen two specimens of this beautiful species from our region.

#### 8. *Cataclysta romanalis*, sp. n. (Tab. LXIII. fig. 14.)

Primaries with the base and the apical half fawn-colour, the central portion white, thickly irrorated with minute black scales, a white band crossing the wing near the base from the costal to the inner margin and two silvery-white lines crossing near the apex, the fringe greyish-white; secondaries white, thickly irrorated with brownish-black scales, the outer margin bordered with black and with a row of small metallic golden spots, the fringe white: head, thorax, and abdomen yellowish-white. Expanse  $\frac{6}{10}$  inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

One specimen.

#### 9. *Cataclysta cumalis*, sp. n. (Tab. LXIII. fig. 15.)

Primaries fawn-colour, with a large white mark extending from the inner margin partly across the middle of the wing, two silvery-white lines partly crossing from the costal margin near the apex to the anal angle, and a small metallic streak at the anal angle, the fringe fawn-colour; secondaries white, the base irrorated with minute brownish-black scales, below which two black lines cross the wing from the costal to the inner margin, the outer margin black, and with four metallic spots and a marginal row of yellow dots, the fringe blackish-brown: head, thorax, and abdomen brownish-white, the antennæ brown, the legs white. Expanse  $\frac{1}{2}$  inch.

*Hab.* GUATEMALA, El Reposo 800 feet (*Champion*); PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

Two specimens; the one from the Volcan de Chiriqui is figured.

10. *Cataclysta pulcherialis*, sp. n. (Tab. LXIII. fig. 16.)

Primaries and secondaries silky-white; the primaries crossed from the costal to the inner margin by fine brown lines, and with a wide pale yellow band crossing about the middle from the costal margin to the anal angle, where it joins a yellow marginal band, on the inner side of which is a second yellow band; the secondaries crossed near the base by two brown lines, and with two fine waved lines below the middle extending from the costal to the inner margin, and a wide submarginal pale yellow band extending from the apex to the anal angle, the outer margin spotted with black: head, thorax, abdomen, and legs yellowish-white, the antennæ pale brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).

One specimen, probably a female.

11. *Cataclysta darsanialis*, sp. n. (Tab. LXIII. fig. 17.)

Primaries and secondaries dark brown; the primaries irrorated with greyish scales near the base, pale yellow at the apex, with a submarginal metallic silvery line; the secondaries with some metallic spots along the outer margin; the fringe dark brown: head, thorax, and abdomen dark brown. Expanse  $\frac{1}{2}$  inch.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen, quite unlike any other species known to me.

12. *Cataclysta cronialis*, sp. n. (Tab. LXIII. fig. 18, ♂.)

*Male.* Primaries pale greyish-brown, crossed about the middle from the costal to the inner margin by an indistinct waved pale brown line, and with two short white lines near the apex (somewhat in the form of a V), the outer margin and anal angle yellowish-brown, the fringe dark brown; secondaries dusky-white, partly crossed about the middle by a rather wide yellowish line, a row of small metallic spots edged with black on the outer margin extending from the apex to the middle, the fringe dark grey: head, thorax, and abdomen greyish.—*Female.* Very similar to the male, but paler and slightly larger. Expanse, ♂  $1\frac{1}{10}$ , ♀  $1\frac{4}{10}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo, Schaus*).

Numerous examples. The insect varies considerably in colour.

13. *Cataclysta cryptalis*, sp. n. (Tab. LXIII. fig. 19, ♂.)

*Male.* Primaries brown, crossed by zigzag white lines, the outer margin edged with white, the marginal line yellowish, the fringe dark brown; secondaries brown, crossed in the middle by a wide dusky-white band, which is edged with brown and white lines, the marginal line yellow from the anal angle almost to the apex, where it joins a row of small metallic black-edged dots, the fringe greyish-brown: head, antennæ, thorax, and abdomen brown.—*Female.* Very similar to the male, but generally larger and darker. Expanse, ♂  $1\frac{3}{10}$ , ♀  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Coatepec (*coll. Schaus*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

This species is not uncommon in Eastern Mexico. It varies slightly in colour, and in the distinctness of the white lines on the wings, these being almost obliterated in some specimens. We figure a male from Jalapa.



## HYDROCAMPA.

*Hydrocampa*, Latreille, Fam. Nat. du Règne Anim. p. 478 (1825); Guenée, Sp. gén. des Lép. viii. p. 273 (1854); Walker, Cat. xvii. p. 456; Lederer, Wien. ent. Monats. vii. p. 451.

1. *Hydrocampa endoralis*.

*Hydrocampa endoralis*, Walk. Cat. xvii. p. 459<sup>1</sup>.

*Hab.* MEXICO, Tierra Colorada in Guerrero, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Gerónimo, San Isidro (*Champion*); HONDURAS (*Dyson*<sup>1</sup>); COSTA RICA, Caché, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

A common and very variable species.

2. *Hydrocampa decetialis*, sp. n. (Tab. LXIII. fig. 22.)

Primaries and secondaries white, crossed by two fine yellow lines, the primaries with a yellow dot at the end of the cell, the fringe white: head, antennæ, thorax, abdomen, and legs white. Expanse  $\frac{1}{2}$  inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*).

Three specimens.

3. *Hydrocampa procialis*, sp. n. (Tab. LXIII. fig. 20.)

*Male.* Primaries and secondaries silky-white, crossed from the costal to the inner margin by a series of pale yellowish-brown lines (the position and form of which can hardly be made clear by description, but will be best understood from the figure); the secondaries with the outer margin near the anal angle edged with pale yellow: head, thorax, legs, and abdomen white, the latter crossed by a black band near the base, the antennæ pale brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen.

4. *Hydrocampa randalis*, sp. n. (Tab. LXIII. fig. 21.)

Primaries pale yellowish-brown, crossed from the costal to the inner margin by three silky-white bands—the first close to the base, the second about the middle, and the third submarginal; secondaries pale yellowish-brown, with white bands similar to those on the primaries; the fringe yellowish-white: head and thorax white; the abdomen yellow, with the base white, the antennæ and legs yellow. Expanse  $\frac{7}{16}$  inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*).

Two specimens, one of them in very poor condition. The example figured is probably a male.

5. *Hydrocampa clymenalis*.

*Hydrocampa clymenalis*, Walk. Cat. xvii. p. 459<sup>1</sup>.

*Stenia præstrictalis*, Leder. Wien. ent. Monats. vii. p. 502, t. 18. fig. 12<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*); GUATEMALA, San Gerónimo, Purula, Panima, and Cubilguitz in Vera Paz, Cerro Zunil, Las Mercedes (*Champion*); COSTA RICA, Rio

Sucio, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—VENEZUELA<sup>1</sup>.

This species is pretty common in our region. It varies in the extent and distinctness of the lines on the primaries. No locality is mentioned by Lederer<sup>2</sup>.

6. **Hydrocampa debalis**, sp. n. (Tab. LXIII. fig. 23.)

*Male*. Primaries and secondaries creamy-white, crossed by three waved yellow lines, the outer margin bordered with pale yellow, the fringe white: head, antennæ, thorax, abdomen, and legs creamy-white.—*Female*. Very similar to the male, but whiter. Expanse  $\frac{6}{10}$  inch.

*Hab.* GUATEMALA, Cubilguitz and San Juan in Vera Paz, Las Mercedes (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

A few specimens; one from Cubilguitz is figured.

7. **Hydrocampa pomperialis**, sp. n. (Tab. LXIII. fig. 24.)

Primaries and secondaries greyish-brown; the primaries crossed near the base from the costal to the inner margin by two curved brown lines, a small white spot at the end of the cell, beyond which is a fine waved brown line extending from the costal margin near the apex to about the middle of the inner margin, a white submarginal line extending from the apex to the anal angle, the outer margin bordered with orange-yellow edged on the inner side with a very fine black line, the fringe dark brown; the secondaries crossed by lines similar to those on the primaries, the outer margin also similarly coloured and with several black dots: head and legs white, the antennæ, thorax, and abdomen brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* GUATEMALA, Cubilguitz and Chiacam in Vera Paz (*Champion*); COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).

The single specimen from Costa Rica is paler than those from Guatemala. We figure an example from Chiacam; it is, I believe, a female, but it has lost the abdomen.

8. **Hydrocampa (?) dematricalis**, sp. n. (Tab. LXIII. fig. 25.)

Primaries pale brown, whitish at the base and on the costal margin, with two fine waved white lines crossing from the costal to the inner margin—the first near the base, the second submarginal,—a dark brown spot at the end of the cell, and a white spot at the apex, the fringe brown; secondaries with the basal half almost white, crossed by a brown line near the base, the outer half pale brown: head white, the thorax and abdomen pale brown, the latter banded with white, the legs white and brown. Expanse  $\frac{1}{2}$  inch.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen.

9. **Hydrocampa (?) procrealis**, sp. n. (Tab. LXIII. fig. 26.)

Primaries and secondaries pale greyish-fawn-colour, crossed by two rather wide white bands—the first near the base, the second submarginal; the primaries with a spot at the end of the cell, one beyond it, one at the apex, and two on the outer margin white; the fringe alternately white and pale brown: head and legs white, the thorax and antennæ pale brown, the abdomen pale brown, banded with white lines. Expanse  $\frac{1}{2}$  inch.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen.



10. *Hydrocampa* (?) *dendalis*, sp. n. (Tab. LXIII. fig. 27.)

Primaries and secondaries white; the primaries with the base, a large round spot, and a band partly crossing the wing pale brown, a wide submarginal yellow band extending from the apex to the inner margin, a black spot in the cell, the marginal line brown; the secondaries similarly marked: head, antennæ, thorax, and abdomen brownish-white, the legs white. Expanse  $\frac{7}{16}$  inch.

*Hab.* GUATEMALA, San Gerónimo (*Champion*).

One specimen.

11. *Hydrocampa* (?) *dispulsalis*.

*Hydrocampa* (?) *dispulsalis*, Walk. Cat. xxxiv. p. 1341<sup>1</sup>.

*Hab.* HONDURAS, Limas<sup>1</sup>.

This insect cannot now be found in the National Collection.

## PARAPONYX.

*Parapoynx* (sic), Hübner, Verz. bek. Schmett. p. 362 (1816); Lederer, Wien. ent. Monats. vii. p. 452.

*Paraponyx*, Guenée, Sp. gén. des Lép. viii. p. 268 (1854); Walker, Cat. xvii. p. 452.

1. *Paraponyx tortalis*?

*Hydrocampa tortalis*, Leder. Wien. ent. Monats. vii. pp. 452, 484, t. 18. fig. 3<sup>1</sup>.

*Hab.* GUATEMALA, San Gerónimo (*Champion*).—VENEZUELA<sup>1</sup>.

Two specimens, apparently females, very similar to Lederer's figure.

2. *Paraponyx citronalis*, sp. n. (Tab. LXIII. fig. 28.)

*Male.* Primaries white, crossed from the costal to the inner margin by a number of fine brown lines and about the middle by a wide pale brown band, the fringe brown; secondaries white, crossed near the base from the costal to the inner margin by two fine brown lines, and below the middle by three brown lines—the first fine, the second and third wider,—the fringe brown: head and antennæ pale brown, the thorax, abdomen, and legs white. Expanse 1 inch.

*Hab.* MEXICO, Omilteme 8000 feet, and Amula 6000 feet, both in Guerrero (*H. H. Smith*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

Varies in the width of the brown lines on the wings; in some of the Costa Rican specimens they are closer together on the secondaries and yellower. We figure a male from Omilteme.

3. *Paraponyx azialis*, sp. n. (Tab. LXIII. fig. 29.)

*Male.* Primaries pale greyish-brown, with two very indistinct zigzag paler submarginal lines extending from the costal to the inner margin, the fringe greyish-brown; secondaries greyish-brown, with the base and costa white: head, antennæ, thorax, and abdomen greyish-brown, the abdomen spotted with white, the legs greyish-white. Expanse  $\frac{3}{4}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen.

4. **Paraponyx hodevalis**, sp. n. (Tab. LXIII. fig. 30.)

*Male*. Primaries dark brown, crossed about the middle from the costal to the inner margin by a wide white band, the apex white, the fringe white and brown; secondaries brown, the outer margin, fringe, and anal angle white, two fine white lines crossing the wing about the middle from the costal to the inner margin: head, antennæ, and thorax brown, the abdomen and legs white. Expanse  $\frac{3}{4}$  inch.

*Hab.* GUATEMALA, San Gerónimo (*Champion*).

A few specimens, varying in colour and in the distinctness of the white lines and markings.

5. **Paraponyx bosoralis**, sp. n. (Tab. LXIII. fig. 31.)

*Male*. Primaries dark brown, paler from the middle to the base, crossed by three fine white lines—the first about the middle, extending from the costal to the inner margin, the second and third near the apex and crossing to the outer margin,—the outer margin edged with white, the fringe dark brown; secondaries dark brown, crossed from the costal to the inner margin by two indistinct fine white lines: head, antennæ, thorax, and abdomen dark brown, the legs greyish-white. Expanse 1 inch.

*Hab.* GUATEMALA, Teleman in Vera Paz (*Champion*).

A long series of specimens, some of which are darker than others. The insect was found in the vicinity of the River Polochic.

SCOPARIA.

*Scoparia*, Haworth, Lep. Brit. p. 498 (1803); Guenée, Sp. gén. des Lép. viii. p. 416; Walker, Cat. xix. p. 814; Lederer, Wien. ent. Monats. vii. p. 347.

1. **Scoparia longipennis**.

*Scoparia longipennis*, Zell. Stett. ent. Zeit. 1872, p. 479, t. 2. fig. 11<sup>1</sup>.

*Hab.* GUATEMALA, Totonicapam 8000 to 10,000 feet, Quiché Mts. 7000 to 9000 feet (*Champion*).—COLOMBIA, Bogota<sup>1</sup>.

Several specimens.

2. **Scoparia albifrons**. (Tab. LXIV. fig. 2.)

*Scoparia albifrons*, Zell. Stett. ent. Zeit. 1872, p. 476, Anmerk. 2<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet, San Francisco 4500 feet, Rio Sucio (*Rogers*).—COLOMBIA, Ubaque<sup>1</sup>.

In Zeller's collection, which has been acquired by the British Museum, there are specimens labelled *S. albifrons*, but no name is mentioned by him in his remarks on the insect<sup>1</sup>.

3. **Scoparia biscutella**.

*Scoparia biscutella*, Zell. Stett. ent. Zeit. 1872, p. 474, t. 2. fig. 8<sup>1</sup>.

*Hab.* MEXICO, Amula in Guerrero 6000 feet, Teapa in Tabasco (*H. H. Smith*).—COLOMBIA, Bogota<sup>1</sup>.



4. *Scoparia delphusa*, sp. n. (Tab. LXIV. fig. 1.)

Primaries pale greyish-brown, crossed by two waved white lines edged with black on the inner side—the first near the base, the second submarginal,—a dark brown spot partly crossing the wing from the costal margin towards the base, the fringe grey and brown; secondaries semihyaline greyish-white, slightly shaded with brown near the apex, the fringe greyish-white: head, antennæ, palpi, and thorax pale brown, the abdomen grey. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Amecameca in Morelos, Mexico city (*F. D. G.*); GUATEMALA, Quiché Mts. 7000 to 9000 feet, Totonicapam 8500 to 10,500 feet (*Champion*).

5. *Scoparia smithi*, sp. n. (Tab. LXIV. fig. 3.)

Primaries silvery-grey, shaded with dark brown along the costal margin, apex, and outer margin, a narrow waved greyish line crossing the wing near the apex from the costal to the inner margin, two black lines at the end of the cell, and a wide black waved line crossing the wing towards the base from the costal to the inner margin, the black line edged with white on the inner side, the fringe brown; secondaries creamy-white, the outer margin edged with pale brown, the fringe white: head and thorax silvery-grey, the antennæ and palpi brown, the abdomen and legs grey. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Omilteme in Guerrero 8000 feet (*H. H. Smith*).

One specimen.

6. *Scoparia sabura*, sp. n. (Tab. LXIV. fig. 4.)

Primaries brown, paler at the base, a dark line at the end and another about the middle of the cell, a rather large grey spot close to the apex, from which a grey line crosses the wing to the inner margin, the grey line divided in the middle and forming a U-shaped mark on the anal angle, the fringe brown; secondaries creamy-white, edged with pale brown from the apex to the anal angle, the fringe greyish-white. Expanse 1 inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

## Subfam. PHYCITINÆ.

## MYELOIS.

*Myelois*, Hübner, Verz. bek. Schmett. p. 371 (1816); Ragonot, in Romanoff's Mém. sur les Léop. vii. p. 25 (1893).

1. *Myelois grossipunctella*.

*Myelois grossipunctella*, Ragon. Nouv. genres et espèces de Phycit. p. 8 (1888)<sup>1</sup>; Ent. Amer. vi. p. 64<sup>2</sup>; Romanoff's Mém. sur les Léop. vii. p. 51, t. 4. fig. 12<sup>3</sup>.

*Hab.* NORTH AMERICA, California<sup>2 3</sup>.—MEXICO, Jalapa (*M. Trujillo*).

Ragonot<sup>2</sup> states that he was informed by Riley that the larva of this species feeds on the "fluted scale" (*Icerya purchasi*), and that it had probably been introduced from Australia. We have received three specimens of the insect from Jalapa. The example described by Ragonot<sup>1</sup> was from an unknown locality.

2. *Myelois decolor*.

*Myelois decolor*, Zell. Horæ Ent. Ross. xvi. p. 222, t. 12. fig. 33 (1881)<sup>1</sup>; Ragon. in Romanoff's Mém. sur les Léop. vii. p. 58, t. 9. fig. 19 (1893)<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).—COLOMBIA, Honda and Las Tibayas<sup>1 2</sup>.

This species varies greatly in the distinctness of the dark markings on the primaries. It is common at Jalapa, whence we have received many specimens.

### HYPARGYRIA.

*Hypargyria*, Ragonot, Nouv. genres et espèces de Phycit. p. 9 (1888); Romanoff's Mém. sur les Léop. vii. p. 122 (1893).

#### 1. *Hypargyria definitella*.

*Myelois definitella*, Zell. Horæ Ent. Ross. xvi. p. 205, t. 11. fig. 24<sup>1</sup>.

*Hypargyria definitella*, Ragon. in Romanoff's Mém. sur les Léop. vii. p. 124 (1893)<sup>2</sup>.

*Hab.* MEXICO, Presidio (*Forrer*), Jalapa (*M. Trujillo*).—COLOMBIA, Honda and Mariquita<sup>1 2</sup>.

### CROCIDOMERA.

*Crocidomera*, Zeller, Isis, 1848, p. 865; Ragonot, in Romanoff's Mém. sur les Léop. vii. p. 132 (1893).

#### 1. *Crocidomera turbidella*.

*Crocidomera turbidella*, Zell. Isis, 1848, p. 865<sup>1</sup>; Möschl. Abhandl. Senck. Ges. xvi. p. 327, t. 1. fig. 25 (1890)<sup>2</sup>; Ragon. in Romanoff's Mém. sur les Léop. vii. p. 133, t. 6. fig. 10 (1893)<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*Schaus*).—SOUTH AMERICA<sup>1 3</sup>; ANTILLES, Porto Rico<sup>2 3</sup>.

One specimen.

### HYPSIPYLA.

*Hypsipyra*, Ragonot, Nouv. genres et espèces de Phycit. p. 10 (1888); Romanoff's Mém. sur les Léop. vii. p. 137 (1893).

#### 1. *Hypsipyra grandella*.

*Nephopteryx grandella*, Zell. Isis, 1848, p. 881<sup>1</sup>.

*Hypsipyra grandella*, Ragon. in Romanoff's Mém. sur les Léop. vii. p. 139, t. 4. fig. 13<sup>2</sup>.

*Hab.* GUATEMALA<sup>2</sup>, San Gerónimo (*Champion*); PANAMA, Chiriqui (*coll. Staudinger*<sup>2</sup>).—PERU<sup>2</sup>; AMAZONS<sup>1</sup>.

One specimen.

### HEMIPTILOCERA.

*Hemiptilocera*, Ragonot, Nouv. genres et espèces de Phycit. p. 9 (1888); Romanoff's Mém. sur les Léop. vii. p. 144 (1893).

#### 1. *Hemiptilocera bigrana*.

*Myelois bigrana*, Zell. Horæ Ent. Ross. xvi. p. 200, t. 11. fig. 21 (1881)<sup>1</sup>.

*Hemiptilocera bigrana*, Ragon. in Romanoff's Mém. sur les Léop. vii. p. 145 (1893)<sup>2</sup>.

*Hab.* MEXICO, Presidio (*Forrer*).—COLOMBIA, Honda<sup>1 2</sup>.

One specimen.



## ORYCTOMETOPIA.

*Oryctometopia*, Ragonot, Nouv. genres et espèces de Phycit. p. 11 (1888); Romanoff's Mém. sur les Lép. vii. p. 153 (1893).

1. *Oryctometopia fossulatella*.

*Oryctometopia fossulatella*, Ragon. Nouv. genres et espèces de Phycit. p. 11 (1888)<sup>1</sup>; Romanoff's Mém. sur les Lép. vii. p. 153, t. 6. fig. 15<sup>2</sup>.

*Hab.* COSTA RICA, Volcan de Irazu 6000 feet<sup>1 2</sup> (*Rogers*).

One specimen.

## PIESMOPODA.

*Piesmopoda*, Zeller, Isis, 1848, p. 863; Ragonot, in Romanoff's Mém. sur les Lép. vii. p. 158 (1893).

Thirteen species are included in this genus by Ragonot; they are widely distributed over the globe.

1. *Piesmopoda semirufella*.

*Myelois semirufella*, Zell. Horæ Ent. Ross. xvi. p. 196, t. 11. fig. 19 (1881)<sup>1</sup>.

*Piesmopoda semirufella*, Ragon. in Romanoff's Mém. sur les Lép. vii. p. 160 (1893)<sup>2</sup>.

*Hab.* MEXICO, Presidio (*Forrer*), Amula in Guerrero 7000 feet (*H. H. Smith*).—COLOMBIA<sup>1 2</sup>.

## DISCOPALPIA.

*Discopalpia*, Ragonot, in Romanoff's Mém. sur les Lép. vii. p. 167 (1893).

1. *Discopalpia flavicans*.

*Myelois flavicans*, Zell. Horæ Ent. Ross. xvi. p. 193, t. 11. fig. 17 (1881)<sup>1</sup>.

*Discopalpia flavicans*, Ragon. in Romanoff's Mém. sur les Lép. vii. p. 167, t. 7. fig. 9<sup>2</sup>.

*Hab.* GUATEMALA, Chiacam in Vera Paz<sup>2</sup> (*Champion*).—COLOMBIA, Honda<sup>1 2</sup>.

One specimen.

## HYALOSPILA.

*Hyalospila*, Ragonot, Nouv. genres et espèces de Phycit. p. 11 (1888); Romanoff's Mém. sur les Lép. vii. p. 168 (1893).

1. *Hyalospila stictoneurella*.

*Hyalospila stictoneurella*, Ragon. Nouv. genres et espèces de Phycit. p. 11 (1888)<sup>1</sup>; Romanoff's Mém. sur les Lép. vii. p. 169, t. 7. fig. 10 (1893)<sup>2</sup>.

*Hab.* GUATEMALA, Las Mercedes<sup>1 2</sup> (*Champion*).

One specimen, a female, described by Ragonot.

## 2. *Hyalospila subaquilella*.

*Hyalospila subaquilella*, Ragon. Nouv. genres et espèces de Phycit. p. 11 (1888)<sup>1</sup>; Romanoff's Mém. sur les Léop. vii. p. 170, t. 46, fig. 24<sup>2</sup>.

*Hab.* GUATEMALA, Cerro Zunil 4000 to 5000 feet<sup>1 2</sup> (*Champion*).

One specimen, the type.

## NEPHOPTERYX.

*Nephopteryx*, Hübner, Verz. bek. Schmett. p. 370 (1816); Zeller, Isis, 1839, p. 179; Ragonot, in Romanoff's Mém. sur les Léop. vii. p. 254 (1893).

*Tlascala*, Hulst, Trans. Am. Ent. Soc. xvii. p. 146 (1890) (pars).

## 1. *Nephopteryx fuscifrontella*. (Tab. LXIV. fig. 5.)

*Nephopteryx fuscifrontella*, Zell. Horæ Ent. Ross. xvi. p. 183, t. 11, figg. 13 a, b (1881)<sup>1</sup>; Ragon. in Romanoff's Mém. sur les Léop. vii. p. 282 (1893)<sup>2</sup>.

*Hab.* GUATEMALA, Volcan de Atitlan 2500 feet (*Champion*).—COLOMBIA, Honda<sup>1 2</sup>.

One specimen.

## 2. *Nephopteryx reductella*.

*Nephopteryx reductella*, Walk. Cat. xxvii. p. 62 (1863)<sup>1</sup>; Ragon. Ent. Amer. v. p. 115 (1888)<sup>2</sup>; Romanoff's Mém. sur les Léop. vii. p. 283, t. 22, fig. 21 (1893)<sup>3</sup>.

*Tlascala reductella*, Hulst, Trans. Am. Ent. Soc. xvii. p. 146<sup>4</sup>.

*Pempelia gleditschiella*, Fernald, Report of the U.S. Departm. Agric. 1880 (1881), p. 262<sup>5</sup>.

*Hab.* NORTH AMERICA<sup>2</sup>, Columbia, New York, and Ohio<sup>3 4</sup>.—HONDURAS<sup>1</sup>.

The only specimens I have seen of this species are those in the National Collection.

## 3. *Nephopteryx drucei*. (Tab. LXIV. fig. 6.)

*Nephopteryx drucei*, Ragon. Nouv. genres et espèces de Phycit. p. 15 (1888)<sup>1</sup>; Romanoff's Mém. sur les Léop. vii. p. 301, t. 9, fig. 17 (1893)<sup>2</sup>.

*Hab.* GUATEMALA, Totonicapam 8500 feet (*Champion*<sup>1 2</sup>).

One specimen, the type.

## LAODAMIA.

*Laodamia*, Ragonot, Nouv. genres et espèces de Phycit. p. 22 (1888); Romanoff's Mém. sur les Léop. vii. p. 403 (1893).

## 1. *Laodamia guatemalaella*. (Tab. LXIV. fig. 7.)

*Salebria guatemalaella*, Ragon. Nouv. genres et espèces de Phycit. p. 18 (1888)<sup>1</sup>.

*Laodamia guatemalaella*, Ragon. in Romanoff's Mém. sur les Léop. vii. p. 414, t. 17, fig. 6 (1893)<sup>2</sup>.

*Hab.* GUATEMALA<sup>1</sup>, San Gerónimo (*Champion*<sup>2</sup>).

One specimen, the type.



## ELASMOPALPUS.

*Elasmopalpus*, Blanchard, in Gay's Hist. fis. y polit. de Chile, Zool. vii. p. 104 (1852); Ragonot, in Romanoff's Mém. sur les Léop. vii. p. 418 (1893).  
*Ufa*, Walker, Cat. xxvii. p. 79 (1863).

1. *Elasmopalpus lignosellus*.

*Pempelia lignosella*, Zell. Isis, 1848, p. 883<sup>1</sup>; Verh. zool.-bot. Ges. Wien, xxii. p. 544<sup>2</sup>; xxiv. p. 430<sup>3</sup>; Horæ Ent. Ross. xvi. p. 180<sup>4</sup>; Berg, Bull. Mosc. 1877, 2, p. 20<sup>5</sup>; An. Soc. Cient. Arg. 1877, p. 28<sup>6</sup>; Riley, Report of the U.S. Departm. Agric. 1881-1882, p. 142, t. 7. fig. 3<sup>7</sup>.  
*Elasmopalpus lignosellus*, Hulst, Trans. Am. Ent. Soc. xvii. p. 159<sup>8</sup>; Ragon. in Romanoff's Mém. sur les Léop. vii. p. 425 (1893)<sup>9</sup>.  
*Elasmopalpus angustellus*, Blanch. in Gay's Hist. fis. y polit. de Chile, Zool. vii. p. 105, t. 7. fig. 14<sup>10</sup>.  
*Hab.* NORTH AMERICA<sup>5</sup>, Carolina<sup>17</sup>, Texas<sup>289</sup>, Florida<sup>8</sup>.—MEXICO, Amula in Guerrero (*H. H. Smith*); GUATEMALA, Balheu in Vera Paz (*Champion*).—SOUTH AMERICA, Colombia<sup>149</sup>, Venezuela<sup>8</sup>, Brazil<sup>19</sup>, Peru<sup>9</sup>, Monte Video<sup>1</sup>, Argentina<sup>5</sup>, Chili<sup>310</sup>, Patagonia<sup>5689</sup>; BAHAMAS<sup>89</sup>.

Var. *tartarellus*.

*Pempelia* (?) *tartarella*, Zell. Verh. zool.-bot. Ges. Wien, xxii. p. 544 (1872)<sup>1</sup>.  
*Pempelia lignosella*, var. *tartarella*, Zell. Horæ Ent. Ross. xvi. p. 180<sup>2</sup>.  
*Dasypyga carbonella*, Hulst, Ent. Amer. iv. p. 117 (1888)<sup>3</sup>.  
*Hab.* NORTH AMERICA, Texas<sup>13</sup>.—MEXICO, Presidio (*Forrer*), Amula in Guerrero 6000 feet (*H. H. Smith*), Jalapa (*M. Trujillo*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

2. *Elasmopalpus pyrrhochrellus*.

*Elasmopalpus pyrrhochrellus*, Ragon. Nouv. genres et espèces de Phycit. p. 23 (1888)<sup>1</sup>; Romanoff's Mém. sur les Léop. vii. p. 429, t. 17. fig. 13 (1893)<sup>2</sup>.  
*Hab.* MEXICO, Presidio (*Forrer*); GUATEMALA, San Gerónimo (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).—BRAZIL<sup>2</sup>; ARGENTINA<sup>12</sup>.

We have received six specimens of this species.

3. *Elasmopalpus rubedinellus*.

*Pempelia rubedinella*, Zell. Isis, 1848, p. 885<sup>1</sup>; Verh. zool.-bot. Ges. Wien, xxiv. p. 430<sup>2</sup>; Horæ Ent. Ross. xvi. p. 181, t. 11. fig. 12 (♂)<sup>3</sup>.  
*Elasmopalpus rubedinellus*, Ragon. in Romanoff's Mém. sur les Léop. vii. p. 430 (1893)<sup>4</sup>.  
*Acrobasis translucida*, Walk. Cat. xxvii. p. 29 (1863)<sup>5</sup>.  
*Nephoptyx rufescentalis*, Walk. loc. cit. p. 58<sup>6</sup>.  
*Nephoptyx minualis*, Walk. loc. cit. p. 60<sup>7</sup>.  
*Nephoptyx deprivalis*, Walk. loc. cit. p. 60<sup>8</sup>.  
*Ufa venezuelalis*, Walk. loc. cit. p. 79<sup>9</sup>.  
*Hab.* MEXICO, Atoyac in Vera Cruz (*H. H. Smith*); GUATEMALA<sup>4</sup>, Dueñas 4950 feet

(*Salvin, in mus. D.*); HONDURAS (*Dyson*<sup>7</sup>); PANAMA<sup>4</sup>, Chiriqui<sup>4</sup>, Obispo (*Salvin, in mus. D.*), Taboga I. (*Mathew*<sup>2</sup>).—COLOMBIA, Mariquita and Honda<sup>3 4</sup>; VENEZUELA<sup>8 9</sup>; BRAZIL<sup>1</sup>; ANTILLES, Jamaica<sup>5</sup>, Porto Rico<sup>4</sup>, Cuba<sup>4</sup>, San Domingo<sup>5 6</sup>.

This species is very widely distributed, but not common. I have only seen four specimens.

#### ANCYLOSTOMIA.

*Ancylostomia*, Ragonot, in Romanoff's Mém. sur les Lép. vii. p. 567 (1893).

##### 1. *Ancylostomia stercorea*.

*Myelois stercorea*, Zell. Isis, 1848, p. 873<sup>1</sup>.

*Ancylostomia stercorea*, Ragon. in Romanoff's Mém. sur les Lép. vii. p. 568, t. 20. fig. 25 (1893)<sup>2</sup>.

*Anerastia ignobilis*, Butl. P. Z. S. 1878, p. 494<sup>3</sup>.

*Pempelia diffissella*, Zell. Horæ Ent. Ross. xvi. p. 178, t. 11. fig. 11 (1881)<sup>4</sup>.

*Hab.* MEXICO, Jalapa (*Schaus, M. Trujillo*), Coatepec (*Schaus*).—COLOMBIA<sup>2</sup>, Honda<sup>4</sup>; BRAZIL<sup>1 2</sup>; JAMAICA<sup>3</sup>.

##### 2. *Ancylostomia sauciella*.

*Pempelia sauciella*, Zell. Horæ Ent. Ross. xvi. p. 183 (1881)<sup>1</sup>.

*Ancylostomia sauciella*, Ragon. in Romanoff's Mém. sur les Lép. vii. p. 569, t. 23. fig. 6 (1893)<sup>2</sup>.

*Hab.* MEXICO, near Durango city (*Becker*).—COLOMBIA, Mariquita<sup>1 2</sup>.

Two specimens, very similar to Ragonot's figure.

#### ETIELLA.

*Etiella*, Zeller, Isis, 1846, pp. 733, 755; Ragonot, in Romanoff's Mém. sur les Lép. vii. p. 569 (1893).

*Mella*, Walker, Cat. xix. p. 1017 (1859).

##### 1. *Etiella zinckenella*.

*Phycis zinckenella*, Treitschke, Schmett. Europ. ix. 1, p. 201 (1832)<sup>1</sup>.

*Pempelia zinckenella*, Zell. Isis, 1839, p. 179<sup>2</sup>.

*Etiella zinckenella*, Zell. Isis, 1848, p. 755<sup>3</sup>; Ragon. in Romanoff's Mém. sur les Lép. vii. p. 572 (1893)<sup>4</sup>; Hamps. Ann. & Mag. Nat. Hist. (6) xvi. p. 348<sup>5</sup>.

*Hab.* MEXICO, Presidio (*Forrer*), Jalapa (*M. Trujillo*).—BRAZIL; ANTILLES, Grenada<sup>5</sup>.—EUROPE<sup>1 5</sup>; AFRICA<sup>5</sup>; MADAGASCAR<sup>5</sup>; ASIA<sup>5</sup>; AUSTRALIA<sup>5</sup>, &c.

This species is found all over the globe. For the rest of the synonymy see Ragonot, *op. cit.* p. 572.

#### ZOPHODIA.

*Zophodia*, Hübner, Verz. bek. Schmett. p. 370 (1816).

*Melitara*, Walker, Cat. xxvii. p. 136 (1863).

*Megaphycis*, Grote, Check-list of N. Am. Moths, p. 55 (1882).



1. **Zophodia prodenialis.**

*Melitara prodenialis*, Walk. Cat. xxvii. p. 137 (1863) <sup>1</sup>.

*Zophodia bollii*, Zell. Verh. zool.-bot. Ges. Wien, xxii. p. 550, t. 3. figg. 21 *a, b* (1872) <sup>2</sup>; xxv. p. 336 <sup>3</sup>.

*Megaphycis bollii*, Grote, Check-list of N. Am. Moths, p. 55 <sup>4</sup>.

*Hab.* NORTH AMERICA <sup>4</sup>, United States <sup>1</sup>, Texas <sup>2</sup>.—MEXICO, Presidio (*Forrer*).—BRAZIL.

One specimen from North-west Mexico, similar to others from Brazil in my own collection.

2. **Zophodia inornatella.**

*Zophodia inornatella*, Ragon. Nouv. genres et espèces de Phycit. p. 31 (1888) <sup>1</sup>.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

This species is figured on an unpublished plate of Ragonot's Monograph, plate xxiv. fig. 11; the type is from the Volcan de Irazu, and not from Brazil, as stated by Ragonot <sup>1</sup>.

## EUZOPHERA.

*Euzophera*, Zeller, Stett. ent. Zeit. 1867, p. 377; Horæ Ent. Ross. xvi. p. 224 (1881).

1. **Euzophera phryganoides.** (Tab. LXIV. fig. 8.)

*Olyca phryganoides*, Walk. Cat. xi. p. 726 <sup>1</sup>.

*Hab.* MEXICO, Presidio (*Forrer*), Jalapa (*M. Trujillo*).—ANTILLES, San Domingo <sup>1</sup>.

Two specimens, one with the wings very dark at the base.

2. **Euzophera gigantella.**

*Euzophera gigantella*, Ragon. Nouv. genres et espèces de Phycit. p. 32 (1888) <sup>1</sup>.

*Hab.* MEXICO <sup>1</sup>.

3. **Euzophera longipennella.**

*Euzophera longipennella*, Ragon. MS.\*

*Hab.* MEXICO, Tres Marias Is. (*Forrer*).

One specimen.

## HOMŒOSOMA.

*Homæosoma*, Curtis, Ent. Mag. i. p. 190 (1833); Zeller, Horæ Ent. Ross. xvi. p. 237 (1881).

1. **Homæosoma noctividella.**

*Homæosoma noctividella*, Ragon. MS.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, El Reposo 800 feet (*Champion*).

Three specimens.

\* Descriptions of this and the following species quoted under MS. names of Ragonot will be published shortly, I believe, the work having been delayed by his untimely death.

### 2. *Homæosoma unionella*.

*Homæosoma unionella*, Ragon. Nouv. genres et espèces de Phycit. p. 33 (1888)<sup>1</sup>.

*Hab.* MEXICO<sup>1</sup>.

### 3. *Homæosoma illuviella*.

*Homæosoma illuviella*, Ragon. Nouv. genres et espèces de Phycit. p. 33 (1888)<sup>1</sup>.

*Hab.* MEXICO<sup>1</sup>.

## TRACHONITIS.

*Trachonitis*, Zeller, Isis, 1848, p. 641; Walker, Cat. xxvii. p. 38 (1863).

### 1. *Trachonitis lucidalis*. (Tab. LXIV. fig. 9.)

*Trachonitis lucidalis*, Walk. Cat. xxvii. p. 39<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).—ANTILLES, San Domingo<sup>1</sup>.

Several specimens from Jalapa, almost identical with Walker's type in the National Collection.

## EPHESTIA.

*Ephestia*, Guenée, Europ. Microlepid. Ind. Method. p. 81 (1845); Walker, Cat. xxvii. p. 23.

### 1. *Ephestia gitonella*.

*Ephestia gitonella*, Ragon. MS.

*Hab.* MEXICO, Ciudad in Durango 8100 feet, Milpas in Durango 5900 feet (*Forrer*), Jalapa (*M. Trujillo*); GUATEMALA, Panajachel 5000 feet (*Champion*).

### 2. *Ephestia kühniella*.

*Ephestia kühniella*, Zell. Stett. ent. Zeit. 1879, p. 466<sup>1</sup>; Riley & Howard, Insect Life, ii. pp. 166–171<sup>2</sup>.

*Hab.* NORTH AMERICA, Canada and United States<sup>2</sup>.—GUATEMALA, Panajachel 5000 feet (*Champion*).

One specimen, so named by Ragonot. The insect was described<sup>1</sup> from specimens found at Halle, but it was supposed to have been introduced from North America in the larval state in meal. It is a destructive pest in the United States and Canada, as well as in Europe.

### 3. *Ephestia cahiritella*.

*Ephestia cahiritella*, Zell. Stett. ent. Zeit. 1867, p. 384<sup>1</sup>.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).—BRAZIL.—EGYPT, Cairo<sup>1</sup>.

### 4. *Ephestia interpunctalis*.

*Pyrallis interpunctalis*, Hübn. Europ. Schmett. t. 19. fig. 128<sup>1</sup>.

*Euchita interpunctalis*, Hübn. Verz. bek. Schmett. p. 347<sup>2</sup>.



*Nymphula interpunctalis*, Duponch. in Godart's Hist. Nat. Lep. Fr., Noct. v. 2, p. 162, t. 221. fig. 2<sup>3</sup>.

*Ephestia interpunctella*, Zell. Verh. zool.-bot. Ges. Wien, xxv. p. 336<sup>4</sup>; Grote, Check-list of N. Am. Moths, p. 55<sup>5</sup>.

*Plodia interpunctella*, Guen. Europ. Microlepid. Ind. Method. p. 80<sup>6</sup>; Leech, British Pyralides, p. 98, t. 11. fig. 11 (1886)<sup>7</sup>.

*Tinea zea*, Fitch, First and Second Report on the Noxious Ins. of New York, p. 320, t. 4. fig. 1 (1856)<sup>8</sup>.

*Hab.* NORTH AMERICA<sup>4 5 7</sup>.—MEXICO, Ciudad in Durango 8100 feet (*Forrer*).—ANTILLES, St. Thomas<sup>4</sup>.—EUROPE<sup>3 6 7</sup>.

### 5. *Ephestia milleri*.

*Ephestia milleri*, Zell. Verh. zool.-bot. Ges. Wien, xxv. p. 338 (1876)<sup>1</sup>.

*Hab.* CENTRAL AMERICA (*Miller*<sup>1</sup>).

### 6. *Ephestia* —?

*Hab.* MEXICO, Presidio (*Forrer*).

Several specimens in poor condition.

## BETHULIA.

*Bethulia*, Ragonot, Nouv. genres et espèces de Phycit. p. 37 (1888).

### 1. *Bethulia championella*. (Tab. LXIV. fig. 10.)

*Bethulia championella*, Ragon. Nouv. genres et espèces de Phycit. p. 37 (1888)<sup>1</sup>.

*Hab.* GUATEMALA<sup>1</sup>, San Joaquin in Vera Paz (*Champion*); COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).

The type is figured.

## Subfam. SCHÆNOBIINÆ.

## MACROTHECA.

*Macrotheca*, Ragonot, Ann. Soc. Ent. Fr. 1890, p. 544.

### 1. *Macrotheca interalbicalis*.

*Macrotheca interalbicalis*, Ragon. Ann. Soc. Ent. Fr. 1890, p. 545, t. 5. figg. 12, 12 a<sup>1</sup>.

*Hab.* MEXICO, Sonora (*Morrison*<sup>1</sup>).

## SCIRPOPHAGA.

*Scirpophaga*, Treitschke, Schmett. Europ. ix. 1, p. 55 (1832); Zeller, Chilonid. et Crambid. p. 1 (1863); Horæ Ent. Ross. xiii. p. 6 (1877); Walker, Cat. xxvii. p. 145.

### 1. *Scirpophaga leucatea*.

*Scirpophaga leucatea*, Zell. Chilonid. et Crambid. p. 2<sup>1</sup>; Horæ Ent. Ross. xiii. p. 6<sup>2</sup>.

*Hab.* MEXICO<sup>2</sup> (*mus. Staudinger*; *Boucard*, in *mus. D.*), Durango city (*Becker*), Presidio (*Forrer*), Atoyac in Vera Cruz (*Schumann*), Teapa in Tabasco (*H. H. Smith*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney*, in *mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA<sup>2</sup>, David, Bugaba (*Champion*).—BRAZIL<sup>1</sup>; ANTILLES, Porto Rico<sup>2</sup>, St. Thomas<sup>1</sup>.

This species, like the following, varies greatly in size.

### 2. *Scirpophaga albinella*.

*Phalæna Tinea albinella*, Cram. Pap. Exot. iv. p. 163, t. 372. fig. D<sup>1</sup>.

*Scirpophaga albinella*, Zell. Chilonid. et Crambid. p. 3<sup>2</sup>; Horæ Ent. Ross. xiii. p. 8<sup>3</sup>; Hamps.

Ann. & Mag. Nat. Hist. (6) xvi. p. 348<sup>4</sup>.

*Rupela albinella*, Walk. Cat. xxx. p. 1009<sup>5</sup>.

*Rupela nivea*, Walk. Cat. xxviii. p. 524<sup>6</sup>.

*Hab.* MEXICO (*Boucard*, in *mus. D.*), Presidio (*Forrer*); BRITISH HONDURAS, Cayo (*Blancaneaux*), Belize (*Sir Alfred Moloney*, in *mus. D.*); HONDURAS (*Dyson*<sup>6</sup>); PANAMA, Chiriqui (*Arcé*, in *mus. D.*), Bugaba, David (*Champion*).—COLOMBIA; GUIANA, Surinam<sup>1 5</sup>; AMAZONS, Santarem<sup>6</sup>; ECUADOR; BRAZIL; ANTILLES, Grenada<sup>4</sup>.

A common species throughout Tropical South America.

## SCHÆNOBIUS.

*Schænobius*, Duponchel, in Godart's Hist. Nat. Lep. Fr., Noct. vii. p. 22 (1836); Walker, Cat. xxx. p. 969; Zeller, Chilonid. et Crambid. p. 3 (1863).

### 1. *Schænobius longirostrellus*. (Tab. LXIV. fig. 11.)

*Chilo longirostrellus*, Clem. Proc. Ac. Phil. 1860 (Contrib. Am. Lepid. no. 5), p. 205<sup>1</sup>.

*Schænobius longirostrellus*, Zell. Chilonid. et Crambid. p. 5<sup>2</sup>; Grote, Check-list of N. Am. Moths. p. 56<sup>3</sup>.

*Hab.* NORTH AMERICA<sup>1 2 3</sup>.—MEXICO, Presidio (*Forrer*).

One specimen, agreeing with others in the National Museum.

## Subfam. CRAMBINÆ.

### PTOCHOSTOLA.

*Ptochostola*, Meyrick, Proc. Linn. Soc. N. S. W. vii. p. 154 (1882).

### 1. *Ptochostola pygmæa*.

*Crambus pygmæus*, Zell. Horæ Ent. Ross. xvi. p. 173, t. 11. fig. 10 (1881)<sup>1</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*).—COLOMBIA, Honda<sup>1</sup>.



Three specimens, agreeing with those in the Zeller collection, now in the National Museum.

## CRAMBUS.

*Crambus*, Fabricius, Ent. Syst., Suppl. p. 420 (1798); Walker, Cat. xxvii. p. 145; Zeller, Chilonid. et Crambid. p. 14.

A very extensive genus, the species being found all over the globe. It is well represented in Central America.

1. *Crambus quinquareatus*.

*Crambus quinquareatus*, Zell. Horæ Ent. Ross. xiii. p. 40, t. 1. fig. 16<sup>1</sup>; Grote, Check-list of N. Am. Moths, p. 56<sup>2</sup>.

*Hab.* NORTH AMERICA<sup>2</sup>, Texas<sup>1</sup>.—MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, near the city 5000 feet (*Salvin, in mus. D.*), San Gerónimo (*Champion*).

This species is common at Jalapa.

2. *Crambus melchiellus*, sp. n. (Tab. LXIV. fig. 12.)

Primaries with the costal margin from the base to the apex dark brown, darker on the inner side, the inner half of the wing pale fawn-colour, thickly irrorated with brown scales, a wide silvery-white line extending from the base to the outer margin, where it is broader, the marginal line dotted with black, the fringe partly white, fawn-colour near the anal angle; secondaries almost uniformly pale grey, the fringe silvery-grey: head, thorax, abdomen, and legs pale fawn-colour. Expanse 1½ inch.

*Hab.* MEXICO, Omilteme in Guerrero 8000 feet (*H. H. Smith*).

3. *Crambus nergaellus*, sp. n. (Tab. LXIV. fig. 13.)

Primaries very pale fawn-colour, with a silvery-white band close to the costal margin extending from the base to the apex, the fringe white; secondaries very pale greyish-white, the fringe grey: head, thorax, and abdomen fawn-colour, the legs whitish. Expanse 1 inch.

*Hab.* MEXICO, Volcan de Ixtaccihuatl 11,500 feet (*Richardson*); GUATEMALA, Totonicapam 8000 to 10,500 feet (*Champion*).

A Guatemalan specimen is figured.

4. *Crambus lascaellus*, sp. n. (Tab. LXIV. fig. 14.)

Primaries fawn-colour, the costal margin edged with dark brown, a wide silvery-white band extending from the base to the apex, where it is crossed by a fine fawn-coloured line, and several yellowish streaks on the outer margin, the outer margin dotted with black, the fringe fawn-colour; secondaries creamy-white: head, palpi, thorax, abdomen, and legs brownish-fawn-colour. Expanse 1¼ inch.

*Hab.* MEXICO, near the city (*F. D. Godman*).

One specimen.

5. *Crambus* —?

*Hab.* MEXICO, Milpas in Durango 5900 feet (*Forrer*).

One specimen in very poor condition.

6. **Crambus cadarellus**, sp. n. (Tab. LXIV. fig. 15.)

Primaries pale straw-colour, with all the veins silvery-white, the fringe black and white; secondaries uniformly greyish, the outer margin from the apex to the anal angle edged with yellowish-fawn-colour, the fringe greyish-white: head, antennæ, and thorax straw-colour, the tegulæ silvery-white, the abdomen and legs grey, the anus greyish-white. Expanse  $1\frac{3}{10}$  inch.

*Hab.* MEXICO, near Durango city (*Becker*).

One specimen.

7. **Crambus racabellus**, sp. n. (Tab. LXIV. fig. 16.)

Primaries pale whitish-fawn-colour, darker at the base and along the costal margin, two blackish-brown lines extending from the base to the end of the cell, the wing thence to the outer margin streaked with greyish-white, the marginal line spotted with black, the fringe greyish-white; secondaries cream-colour, the fringe whitish: head, palpi, antennæ, thorax, abdomen, and legs pale fawn-colour. Expanse  $1\frac{4}{10}$  inch.

*Hab.* MEXICO, near Durango city (*Becker*).

Two specimens.

8. **Crambus misgabellus**, sp. n. (Tab. LXIV. fig. 17.)

Primaries very pale greyish-fawn-colour, darker at the base, irrorated with a few brown scales about the middle and along the outer margin; secondaries greyish-white; the fringe white: head, thorax, and antennæ pale fawn-colour, the palpi, abdomen, and legs greyish-white. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Amecameca in Morelos (*F. D. Godman*).

One specimen.

9. **Crambus leachellus**.

*Chilo leachellus*, Zinck. in Germar's Mag. iii. p. 114<sup>1</sup>.

*Crambus leachellus*, Zell. Chilonid. et Crambid. p. 18 (1863)<sup>2</sup>; Horæ Ent. Ross. xiii. p. 38<sup>3</sup>;

Walk. Cat. xxx. p. 973<sup>4</sup>; Grote, Check-list of N. Am. Moths, p. 56<sup>5</sup>.

*Crambus involutellus*, Clem. Proc. Ac. Phil. 1860 (Contrib. Am. Lepid. no. 5), p. 203<sup>6</sup>.

*Crambus pulchellus*, Zell. Chilonid. et Crambid. p. 18 (1863)<sup>7</sup>.

? *Crambus floridus*, Zell. Verh. zool.-bot. Ges. Wien, xxii. p. 537 (1872)<sup>8</sup>.

*Hab.* NORTH AMERICA<sup>5 6</sup>, Vancouver, Massachusetts<sup>8</sup>, Georgia, Illinois<sup>2 4 7</sup>, Texas<sup>3</sup>.  
—MEXICO (*in mus. Staudinger*).

We include this species in our fauna upon the authority of Dr. Staudinger, who has sent us a specimen from Mexico. It is a common and widely distributed insect in North America. The original locality was unknown to Zincken<sup>1</sup>.

10. **Crambus immunellus**.

*Crambus immunellus*, Zell. Stett. ent. Zeit. 1872, p. 472, t. 2. fig. 6<sup>1</sup>; Horæ Ent. Ross. xiii. p. 47<sup>2</sup>; xvi. p. 170<sup>3</sup>.

*Hab.* COSTA RICA, Rio Sucio, Volcan de Irazu 6000 feet (*Rogers*).—COLOMBIA, Ubaque<sup>1</sup>, Anolaima<sup>3</sup>, Honda<sup>3</sup>; AMAZONS; BRAZIL<sup>2</sup>.

A few specimens, agreeing well with those in the Zeller collection now in the National Museum.



11. **Crambus expansellus.** (Tab. LXIV. fig. 18.)

*Crambus expansellus*, Zell. Horæ Ent. Ross. xiii. p. 48, t. 1. fig. 18 (1877)<sup>1</sup>; xvi. p. 171<sup>2</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*<sup>1</sup>).—COLOMBIA, Honda<sup>2</sup>; AMAZONS.

One specimen from Mexico, agreeing perfectly with the type from Chiriqui in Dr. Staudinger's collection, which we now figure.

12. **Crambus pusionellus.**

*Crambus pusionellus*, Zell. Chilonid. et Crambid. p. 16 (1863)<sup>1</sup>; Stett. ent. Zeit. 1872, p. 470, t. 2. fig. 3<sup>2</sup>; Horæ Ent. Ross. xiii. p. 35<sup>3</sup>; Walk. Cat. xxx. p. 974<sup>4</sup>.

*Hab.* MEXICO, Amula 6000 feet, Omilteme 8000 feet, both in Guerrero (*H. H. Smith*).—COLOMBIA, Barranquilla<sup>2 3</sup>; VENEZUELA<sup>1 4</sup>.

A few specimens of this species have been received from Western Mexico.

13. **Crambus tenuistrigatus.**

*Crambus tenuistrigatus*, Zell. Horæ Ent. Ross. xvi. p. 168, t. 11. fig. 8 (1881)<sup>1</sup>.

*Hab.* MEXICO, Atoyac in Vera Cruz (*Schumann*), Teapa in Tabasco (*H. H. Smith*); COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).—COLOMBIA, Mariquita<sup>1</sup>; AMAZONS.

A common insect at Teapa.

14. **Crambus hemiochrellus.**

*Crambus hemiochrellus*, Zell. Horæ Ent. Ross. xiii. p. 51 (1877)<sup>1</sup>; Grote, Check-list of N. Am. Moths, p. 56<sup>2</sup>.

(?) *Crambus luteolellus*, Clem. Proc. Ae. Phil. 1860 (Contrib. Am. Lepid. no. 5), p. 203<sup>3</sup>.

*Hab.* NORTH AMERICA<sup>2 3</sup>, Texas<sup>1</sup>.—MEXICO, Presidio (*Forrer*), Amula 6000 feet, Tierra Colorada 2000 feet, both in Guerrero, Cuernavaca in Morelos, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*), Jalapa (*M. Trujillo*); HONDURAS, Ruatan I. (*Gaumer*).

15. **Crambus fissiradiellus.**

*Crambus fissiradiellus*, Walk. Cat. xxvii. p. 160 (1863)<sup>1</sup>.

*Crambus quadrinotellus*, Zell. Horæ Ent. Ross. xiii. p. 55, t. 1. fig. 21<sup>2</sup>; xvi. p. 174<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Dueñas 5000 feet (*Salvin, in mus. D.*), San Gerónimo and Panima in Vera Paz (*Champion*); COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*<sup>2</sup>), Volcan de Chiriqui 2000 to 3000 feet, Caldera (*Champion*).—COLOMBIA, Honda<sup>3</sup>; ANTILLES, San Domingo<sup>1</sup>, Jamaica<sup>1</sup>.

Zeller's type<sup>2</sup> in Dr. Staudinger's collection does not differ from *C. fissiradiellus*, Walk.

16. **Crambus minuellus.** (Tab. LXIV. fig. 19.)*Crambus minuellus*, Walk. Cat. xxvii. p. 164<sup>1</sup>.*Hab.* GUATEMALA, San Gerónimo (*Champion*); HONDURAS (*Dyson*<sup>1</sup>).

One specimen, almost identical with Walker's type.

17. **Crambus ligonellus.***Crambus ligonellus*, Zell. Horæ Ent. Ross. xvi. p. 170 (1881)<sup>1</sup>.*Hab.* MEXICO, Presidio (*Forrer*), Orizaba (*F. D. Godman*).—JAMAICA<sup>1</sup>.

## DIPTYCHOPHORA.

*Diptychophora*, Zeller, Stett. ent. Zeit. 1866, p. 153; Horæ Ent. Ross. xiii. p. 32 (1877).1. **Diptychophora octavianella.***Diptychophora octavianella*, Zell. Horæ Ent. Ross. xiii. p. 33, t. 1. fig. 13<sup>1</sup>.*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*<sup>1</sup>).

The only specimen I have seen of this species is the type, kindly lent me by Dr. Staudinger.

2. **Diptychophora smithi**, sp. n. (Tab. LXIV. fig. 20.)

Primaries brown, crossed by two zigzag fine black lines—the first about the middle, edged with white on both sides, the second submarginal and edged with white on the outer side only,—a white spot on the costal margin and one beyond the cell, a small white streak at the apex, three small black spots edged with silvery-white externally on the outer margin close to the anal angle, and several small black marks close to the base, the fringe brown; secondaries pale dusky-white, with a pale submarginal band extending from the costal to the inner margin, the marginal line black, the fringe dusky-white: head, thorax, and abdomen brown, banded with white, the antennæ brown, the anus slightly yellowish; the legs brown, banded with white. Expanse  $\frac{7}{16}$  inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).Ten specimens. This species is allied to *D. octavianella*, Zell., but very distinct.

## PLATYTES.

*Platytes*, Guenée, Europ. Microlepid. Ind. Method. p. 86 (1845); Meyrick, Trans. Ent. Soc. Lond. 1890, p. 480.1. **Platytes squamulella.***Chilo squamulellus*, Zell. Horæ Ent. Ross. xvi. p. 158, t. 11. fig. 3 (1881)<sup>1</sup>.*Hab.* NORTH AMERICA, Texas<sup>1</sup>.—MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, San Gerónimo (*Champion*).2. **Platytes interlineata.***Chilo interlineatus*, Zell. Horæ Ent. Ross. xvi. p. 156, t. 11. fig. 1 (1881)<sup>1</sup>.*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); COSTA RICA, Volcan de Irazu 6000



to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA, Honda<sup>1</sup>.

### 3. *Platytes endochalybella*. (Tab. LXIV. fig. 21.)

*Platytes endochalybella*, Hamps. P. Z. S. 1895, p. 947<sup>1</sup> \*.

*Hab.* MEXICO, Presidio (*Forrer*).—SOUTH AMERICA, Castro Parana<sup>1</sup>.

One specimen, which we figure.

## ARGYRIA.

*Argyria*, Hübner, Verz. bek. Schmett. p. 372 (1816).

*Urola*, Walker, Cat. xxvii. p. 181 (1863).

*Catharylla*, Zeller, Chilonid. et Crambid. p. 50 (1863).

*Argyria* is placed as a synonym of *Platytes* by Mr. Hampson, but with this I do not agree. It differs from that genus in the form of the palpi, these organs being small and short in *Argyria*, and long in *Platytes*.

### 1. *Argyria nivalis*.

*Phalæna Pyralis nivalis*, Drury, Ill. Exot. Ins. ii. p. 25, t. 14. fig. 4<sup>1</sup>.

*Hydrocampa* (?) *nivalis*, Westw. ed. Drury, Ill. Exot. Ins. ii. p. 28, t. 14. fig. 4<sup>2</sup>.

*Argyria nivalis*, Fernald, N. Amer. Ent. i. pp. 100–102 (1880)<sup>3</sup>.

*Margarodes quadristigmatis*, Guen. Sp. gén. des Lép. viii. p. 304 (1854)<sup>4</sup>.

*Margaronia quadristigmatis*, Walk. Cat. xviii. p. 519<sup>5</sup>; xix. p. 976<sup>6</sup>.

*Geometra argentata*, Emmons, Nat. Hist. New York, Agric. v. t. 40. fig. 2 (1854)<sup>7</sup>.

*Argyria argentata*, Grote, Bull. Buff. Soc. ii. p. 166<sup>8</sup>.

*Catharylla nummulalis*, Zell. Chilonid. et Crambid. p. 50 (1863)<sup>9</sup> (nec Hübn.).

*Urola microchrysellæ*, Walk. Cat. xxvii. p. 181 (1863)<sup>10</sup>.

*Hab.* NORTH AMERICA<sup>3 4 5 7 8 10</sup>, New England<sup>1 2</sup>, Pennsylvania<sup>9</sup>, Georgia<sup>10</sup>, Ohio<sup>9</sup>, Illinois<sup>9</sup>.—MEXICO, Presidio (*Forrer*); HONDURAS (*Dyson*<sup>10</sup>); COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).—ANTILLES, San Domingo<sup>5</sup>.

A rare species in our region, whence we have received two specimens only.

### 2. *Argyria nummulalis*.

*Argyria nummulalis*, Hübn. Verz. bek. Schmett. p. 372<sup>1</sup>; Zutr. Samml. exot. Schmett. i. p. 30, figg. 185, 186<sup>2</sup>; Walk. Cat. xxx. p. 977<sup>3</sup>; Fernald, N. Amer. Ent. i. p. 102 (1880)<sup>4</sup>.

*Catharylla fuscipes*, Zell. Chilonid. et Crambid. p. 51 (1863)<sup>5</sup>; Walk. Cat. xxx. p. 977<sup>6</sup>.

*Urola subænescens*, Walk. Cat. xxvii. p. 182<sup>7</sup>.

*Hab.* NORTH AMERICA<sup>4</sup>, Pennsylvania<sup>5</sup>, Ohio<sup>5</sup>, Illinois<sup>5 6</sup>, Florida<sup>2</sup>.—GUATEMALA, Lanquin in Vera Paz (*Champion*).

One specimen. The locality for *Urola subænescens* was unknown to Walker<sup>7</sup>.

\* The references to Mr. Hampson's paper are taken from an advance copy of part 4 of the 'Proceedings of the Zoological Society' for 1895.

### 3. *Argyria pusillalis*.

*Argyria pusillalis*, Hübn. Verz. bek. Schmett. p. 372<sup>1</sup>; Zutr. Samml. exot. Schmett. i. p. 28, figg. 167, 168<sup>2</sup>; Walk. Cat. xxx. p. 977<sup>3</sup>.

*Catharylla lusella*, Zell. Chilonid. et Crambid. p. 51<sup>4</sup>; Walk. Cat. xxx. p. 977<sup>5</sup>.

*Argyria lusella*, Zell. Horæ Ent. Ross. xiii. p. 65<sup>6</sup>; xvi. p. 176<sup>7</sup>.

*Hab.* NORTH AMERICA, Baltimore<sup>2</sup>, Texas<sup>6</sup>.—MEXICO, Orizaba (*H. J. Elwes*), Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Coban in Vera Paz (*Champion*); COSTA RICA, Caché, Rio Sucio, Volcan de Irazu 6000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*<sup>6</sup>), Obispo (*Salvin, in mus. D.*).—COLOMBIA, R. Magdalena<sup>6</sup>, Honda<sup>7</sup>; ECUADOR; BRAZIL; PERU<sup>6</sup>; ANTILLES, Jamaica<sup>6</sup>, St. Thomas<sup>4 5</sup>, Trinidad.

This species varies considerably in size and in the distinctness of the markings. It is not mentioned by Fernald or Grote as North American.

### 4. *Argyria pontiella*.

*Argyria pontiella*, Zell. Horæ Ent. Ross. xiii. p. 61, t. 1. fig. 24 (1877)<sup>1</sup>; xvi. p. 175<sup>2</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*<sup>1</sup>).—COLOMBIA<sup>2</sup>.

### 5. *Argyria opposita*. (Tab. LXIV. fig. 22.)

*Argyria opposita*, Zell. Horæ Ent. Ross. xiii. p. 64 (1877)<sup>1</sup>; xvi. p. 175<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA (*Conradt, in mus. Staudinger*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*<sup>1</sup>).—COLOMBIA, Honda<sup>2</sup>; AMAZONS; BRAZIL, Ceara.

This species is widely distributed in Tropical America and fairly common. We figure the type from Chiriqui.

### 6. *Argyria pustulella*. (Tab. LXIV. fig. 23.)

*Argyria pustulella*, Walk. Cat. xxxv. p. 1764 (1866)<sup>1</sup>.

*Hab.* COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).—VENEZUELA<sup>1</sup>; BRAZIL.

One specimen.

## EROMENE.

*Eromene*, Hübner, Verz. bek. Schmett. p. 366 (1816); Walker, Cat. xxvii. p. 179; Zeller, Chilonid. et Crambid. p. 52 (1863); Horæ Ent. Ross. xiii. p. 70 (1877); Grote, Check-list N. Am. Moths, p. 56 (1882).

*Euchromius*, Guenée, Europ. Microlepid. Ind. Method. p. 86 (1845).



1. **Eromene californicalis.** (Tab. LXIV. fig. 24.)

*Eromene californicalis*, Pack. Ann. Lyc. New York, x. p. 264 (1874)<sup>1</sup>; Grote, Check-list of N. Am. Moths, p. 56<sup>2</sup>.

*Hab.* NORTH AMERICA<sup>2</sup>, California<sup>1</sup>.—MEXICO, Northern Sonora (*Morrison*), Presidio (*Forrer*).

Of this species we have received a few specimens from Northern Mexico.

2. **Eromene chiriquitensis.**

*Eromene chiriquitensis*, Zell. Horæ Ent. Ross. xiii. p. 70, t. 1. fig. 25<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*<sup>1</sup>).

The only specimen I have seen of this species is the type; it is a female.

## ERUPA.

*Erupa*, Walker, Cat. xxx. p. 980 (1864).

*Zolca*, Walker, Cat. xxxv. p. 1769 (1866).

1. **Erupa congruella.**

*Zolca congruella*, Walk. Cat. xxxv. p. 1769 (♀)<sup>1</sup>.

*Chilo virgatus*, Feld. & Rogenh. Reise der Novara, Lep. t. 137. fig. 3 (♀)<sup>2</sup>.

*Hab.* COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).—VENEZUELA<sup>2</sup>; BRAZIL<sup>1</sup>.

A single worn specimen of this species has been received from Costa Rica.

2. **Erupa raptilineella**, sp. n. (Tab. LXIV. fig. 26.)

*Erupa raptilineella*, Hamps. P. Z. S. 1895, p. 952<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*Schaus*<sup>1</sup>, *M. Trujillo*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

## DIATRÆA.

*Diatræa*, Lansdown Guilding, Trans. Soc. Arts, xlv. p. 148 (1828); Zeller, Horæ Ent. Ross. xvi. p. 161 (1881).

1. **Diatræa neuricella.** (Tab. LXIV. fig. 27.)

*Chilo neuricellus*, Zell. Chilonid. et Crambid. p. 8 (1863)<sup>1</sup>; Stett. ent. Zeit. 1872, p. 465<sup>2</sup>; Horæ Ent. Ross. xiii. p. 13<sup>3</sup>; Walk. Cat. xxx. p. 966<sup>4</sup>.

*Diatræa neuricella*, Zell. Horæ Ent. Ross. xvi. p. 162<sup>5</sup>.

*Chilo culmicolellus*, Zell. Chilonid. et Crambid. p. 7<sup>6</sup>; Walk. Cat. xxx. p. 966<sup>7</sup>.

*Crambus impersonatellus*, Walk. Cat. xxvii. p. 163 (1863)<sup>8</sup>.

*Hab.* MEXICO, State of Durango (*Forrer*), Misantla (*F. D. G.*), Teapa in Tabasco (*H. H. Smith*), Valladolid and Temax in Yucatan (*Gaumer*); GUATEMALA, Panima and San Gerónimo in Vera Paz, El Tumbador, Rio Naranjo, Capetillo (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*), Candelaria Mts. (*Underwood*);

PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*<sup>3</sup>), Obispo (*Salvin, in mus. D.*).—COLOMBIA<sup>6,7</sup>, R. Magdalena<sup>2</sup>, Honda<sup>5</sup>; VENEZUELA<sup>1,2,8</sup>; AMAZONS, Santarem<sup>8</sup>; BRAZIL; ARGENTINE REPUBLIC.

A common and widely distributed species in Central and South America. I have a very large series of specimens before me, showing great variation in size and in the depth of colour.

## 2. *Diatræa saccharalis*. (Tab. LXIV. fig. 29.)

*Phalæna saccharalis*, Fabr. Ent. Syst. iii. 2, p. 238 (1794)<sup>1</sup>.

*Crambus sacchari*, Fabr. Ent. Syst., Suppl. p. 469<sup>2</sup>.

*Diatræa sacchari*, Lansd. Guild. Trans. Soc. Arts, xlv. p. 149, tab. (15)<sup>3</sup>; Westw. Journ. Linn. Soc., Zool. i. p. 103<sup>4</sup>; Comst. U. S. Departm. Agric., Report no. 35, p. 8 (1881)<sup>5</sup>.

*Diaratria saccharalis*, Grote, Check-list of N. Am. Moths, p. 56 (1882)<sup>6</sup>.

*Chilo oblitteratellus*, Zell. Chilonid. et Crambid. p. 8 (1863)<sup>7</sup>; Stett. ent. Zeit. 1872, p. 465<sup>8</sup>; Horæ Ent. Ross. xiii. p. 14 (1877)<sup>9</sup>; Walk. Cat. xxx. p. 966<sup>10</sup>.

*Diatræa oblitteratella*, Zell. Horæ Ent. Ross. xvi. p. 163, t. 11. figg. 5 a (♂), b (♀)<sup>11</sup>.

*Crambus lineosellus*, Walk. Cat. xxvii. p. 162 (♂)<sup>12</sup>.

*Crambus leucaniellus*, Walk. loc. cit. p. 161 (♀)<sup>13</sup>.

*Chilo crambidoides*, Grote, Canad. Ent. xii. p. 15 (1880)<sup>14</sup>.

*Diaratria crambidoides*, Grote, Check-list of N. Am. Moths, p. 56 (1882)<sup>15</sup>.

*Hab.* NORTH AMERICA<sup>6,15</sup>, Louisiana<sup>5</sup>, Kansas<sup>14</sup>.—MEXICO, Jalapa (*M. Trujillo*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, El Tumbador, Las Mercedes, Cerro Zunil, Senahu (*Champion*); HONDURAS (*Dyson*<sup>12</sup>); COSTA RICA, Volcan de Irazu (*Rogers*); PANAMA, Chiriqui (*mus. Staudinger*<sup>9</sup>), Bugaba, Volcan de Chiriqui (*Champion*), Obispo (*Salvin, in mus. D.*).—COLOMBIA, R. Magdalena<sup>8</sup>, Honda<sup>11</sup>; GUIANA; BOLIVIA; BRAZIL<sup>7,9,10</sup>; ANTILLES, Cuba<sup>9</sup>, San Domingo<sup>13</sup>, Dominica, St. Vincent<sup>3</sup>.—MAURITIUS<sup>4</sup>, CEYLON<sup>4</sup>.

The larva of this species is known as the "sugar-cane borer," and it appears to be very destructive where it is found. The insect varies in the distinctness of the spotted line on the primaries.

## 3. *Diatræa valida*.

*Chilo (Donacoscaptes) validus*, Zell. Horæ Ent. Ross. xiii. p. 16, t. 1. figg. 4 a, b (1877)<sup>1</sup>.

*Erupa (?) titanalis*, Feld. & Rogenh. Reise der Novara, Lep. t. 137. fig. 4<sup>2</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*<sup>1</sup>).—BRAZIL<sup>2</sup>.

One specimen from Chiriqui in Dr. Staudinger's collection.

## CHILO.

*Chilo*, Zineken, in Germar's Mag. ii. pp. 30, 33 (1817); Zeller, Chilonid. et Crambid. p. 6 (1863); Horæ Ent. Ross. xiii. p. 13, and xvi. p. 156; Walker, Cat. xxvii. p. 139 (1863).



1. **Chilo densellus.**

*Chilo densellus*, Zell. Horæ Ent. Ross. xvi. pp. 158, 255, t. 11. fig. 2 (1881) <sup>1</sup>.

*Hab.* NORTH AMERICA, Texas <sup>1</sup>.—MEXICO, Presidio (*Forrer*).

Our specimens are almost identical with Zeller's type in the National Museum.

## DORATOPERAS.

*Doratoperas*, Hampson, P. Z. S. 1895, p. 961.

1. **Doratoperas atroparsellus.** (Tab. LXIV. fig. 28, ♂.)

*Crambus* (?) *atroparsellus*, Walk. Cat. xxvii. p. 163 (♀) (1863) <sup>1</sup>.

*Doratoperas atroparsellus*, Hamps. P. Z. S. 1895, p. 961 <sup>2</sup>.

*Nystalea zeuzeroides*, Walk. Cat. xxxiii. p. 761 (♂) <sup>3</sup>.

*Chilo spectabilis*, Feld. & Rogenh. Reise der Novara, Lep. t. 137. fig. 2 (♀) <sup>4</sup>.

*Donacoscaptus lanceolata*, Zell. Horæ Ent. Ross. xvi. p. 159, t. 11. fig. 4 (♀) <sup>5</sup>.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Arcé, in mus. D. ; Ribbe, in mus. Staudinger*).—COLOMBIA <sup>2 5</sup>, Bogota <sup>4</sup>; ECUADOR; AMAZONS, Ega <sup>3</sup>; BRAZIL <sup>2</sup>, Rio Janeiro <sup>1</sup>.

We figure the male obtained by Arcé in Chiriqui.

## MESOLIA.

*Mesolia*, Ragonot, Ann. Soc. Ent. Fr. 1888, p. 282.

1. **Mesolia plurimella.** (Tab. LXIV. fig. 25.)

*Crambus plurimellus*, Walk. Cat. xxvii. p. 162 <sup>1</sup>.

*Hab.* MEXICO, Presidio (*Forrer*).—ANTILLES, San Domingo <sup>1</sup>.

Two specimens, almost identical with Walker's type in the National Collection.

## PRIONAPTERYX.

*Prionapteryx*, Stephens, Illustr. Brit. Ent., Haust. iv. p. 316 (1834); Walker, Cat. xxx. p. 960 (1864).

*Prionoptyeryx*, Zeller, Chilonid. et Crambid. p. 13 (1863); Grote, Check-list of N. Am. Moths, p. 56 (1882); Ragonot, Ann. Soc. Ent. Fr. 1888, p. 281.

1. **Prionapteryx elongata.**

*Prionoptyeryx elongata*, Zell. Horæ Ent. Ross. xiii. p. 27, t. 1. fig. 9 (1877) <sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*Schaus*), Atoyac in Vera Cruz (*H. H. Smith*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger* <sup>1</sup>), Bugaba (*Champion*).

We have to thank Dr. Staudinger for kindly loaning us Zeller's type.

BIOL. CENTR.-AMER., Heter., Vol. II., October 1896.

2 qq

## 2. *Prionapteryx achatina*.

*Prionapteryx achatina*, Zell. Chilonid. et Crambid. p. 13 (1863)<sup>1</sup>; Grote, Check-list of N. Am. Moths, p. 56<sup>2</sup>.

*Hab.* NORTH AMERICA<sup>1 2</sup>.—MEXICO, Atoyac in Vera Cruz (*H. H. Smith*).

One specimen, agreeing with those in the Zeller Collection, now in the National Museum\*.

# S U P P L E M E N T.

THE first enumeration of the Families Sphingidæ to Pyralidæ being completed, it is now proposed to give a Supplement, containing an account of the large amount of additional material that has come to hand during the publication of the subject, which commenced in April 1881. The names of the various species from our region subsequently described by Mr. Schaus, Mr. H. Edwards, and others are also included, as well as corrections in synonymy where required. All the more important fresh localities are given.

## ÆLLOPUS (I. p. 1).

### *Ællopus tantalus* (I. p. 1).

To the localities given, add:—MEXICO, Ciudad in Durango 8100 feet (*Forrer*), near Durango city (*Becker*), Jalisco (*Schumann*), Rio Papagaio in Guerrero, Atoyac in Vera Cruz (*H. H. Smith*), Jalapa (*Schaus*), Omealca (*M. Trujillo*); GUATEMALA, Volcan de Santa Maria (*Richardson*); NICARAGUA, Matagalpa (*Richardson*); COSTA RICA (*Van Patten*), Candelaria Mts. (*Underwood*); PANAMA, near the city (*J. J. Walker*).

Mr. Schaus ('Entomological News,' 1895, p. 141) states that *Æ. titan*, Cram., can always be differentiated from *Æ. tantalus*, Linn., by the grey scales at the anal angle of the secondaries above; but in this I cannot follow him, as in some specimens the grey scales are hardly to be seen, while in others they are very distinct on the underside.

## EUPYRRHOGLOSSUM (I. p. 2).

### *Eupyrrhoglossum sagra* (I. p. 2).

To the localities given, add :—MEXICO, Jalapa (*Schaus*).

\* [N.B.—Page 297 and the first six lines of p. 298 were published in March 1896, and are now reprinted.—EDD.]



**Eupyrrhoglossum ceculus** (I. p. 2).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); GUATEMALA, Coban in Vera Paz (*Conradt*); PANAMA, near the city (*J. J. Walker*).

## PERIGONIA (p. 3).

**Perigonía lusca** (I. p. 3).

To the localities given, add:—MEXICO, Jalapa (*Schaus, M. Trujillo*), Cuesta de Misanthla (*M. Trujillo*); GUATEMALA, in the city (*Rodriguez*); PANAMA, Volcan de Chiriqui 4000 to 6000 feet (*Champion*).

**Perigonía restituta** (I. p. 3).

To the localities given, add:—MEXICO, near Durango city (*Becker*), Orizaba (*Boucard, in mus. D.*), Coatepec (*Schaus*); HONDURAS (*Wittkugel, in mus. Staudinger*); COSTA RICA (*Van Patten*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

Varies considerably in the width of the yellow band crossing the secondaries.

4. **Perigonía tacita**. (Tab. LXV. fig. 3.)

*Perigonía tacita*, Druce, Ann. & Mag. Nat. Hist. (6) ii. p. 236 (1888) <sup>1</sup>.

Primaries bright reddish-brown, with a large A-shaped darker brown mark extending from the middle of the inner margin nearly to the costal margin, edged on both sides with greyish-brown lines; two small black dots at the end of the cell; several indistinct undulating dark brown lines crossing the wing from the costal margin to near the anal angle; several silvery-brown lunular-shaped marks close to the apex; secondaries dark brown, broadly banded with chrome-yellow from the base to near the apex, and with several very indistinct greyish lines crossing from the anal angle towards the apex: the underside of both wings yellowish-brown, reddish-brown along the outer margin: head, thorax, abdomen, and legs dark brown; antennæ yellowish-brown. Expanse  $2\frac{1}{2}$  inches.

*Hab.* MEXICO, Cuesta de Misanthla (*M. Trujillo*); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger* <sup>1</sup>).

This species is most nearly allied to *P. stulta*, Herr.-Schäff., but very distinct from that insect. The type is in Dr. Staudinger's collection.

## PACHYGONIA (I. p. 3).

4. **Pachygonia coffææ**. (*P. ericea*, Tab. LXV. fig. 2.)

*Perigonía coffææ*, Walk. Cat. viii. p. 101 (1856) (nec Boisd.) <sup>1</sup>.

*Pachygonia ericea*, Druce, Ann. & Mag. Nat. Hist. (6) ii. p. 235 (1888) <sup>2</sup>.

*Hab.* HONDURAS (*mus. D.*); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger* <sup>2</sup>).  
—BRAZIL <sup>1</sup>.

The type of *P. coffææ*, Walk., in the National Museum was purchased at Stevens's sale-rooms, without any locality attached. It is very doubtful if it came from Brazil, as all the specimens I have seen are from our region. The insect figured and described by Boisduval under the name *P. coffææ*, Walk., belongs to another species, *P. boisduvali*, Butl., of which I have lately received a specimen from Brazil.

## UNZELA (I. p. 4).

*Cornipalpus*, Felder, Reise der Novara, Lep. t. 82, Erkl. der Taf. 85-107, p. 3 (1874).

**Unzela japix** (I. p. 4).

*Cornipalpus succinctus*, Feld. Reise der Novara, Lep. t. 82, fig. 6<sup>1</sup>.

To the localities given, add :—MEXICO, Paso de San Juan in Vera Cruz (*Schaus*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); PANAMA, Bugaba (*Champion*).

The sexes in this and the following species are very similar. The only locality given by Felder<sup>1</sup> is "America."

**2. Unzela pronoe.** (Tab. LXVI. fig. 1, ♂.)

*Unzela pronoe*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 168 (1894)<sup>1</sup>.

*Male*. Primaries brown, very similar to those of *U. japix*, but without the distinct brown band that crosses the wing in that species; a small dark brown spot on the costal margin, and a large dark brown patch at the anal angle; secondaries semihyaline pale brown, broadly bordered from the apex to the anal angle with dark brown: head, palpi, and thorax dark brown; upperside of the abdomen pale brown; underside of the head, thorax, and abdomen white; antennæ and legs brown.—*Female*. Very similar to the male, but with the primaries slightly paler in colour. Expanse, ♂ 2 $\frac{1}{4}$ , ♀ 2 $\frac{1}{10}$  inches.

*Hab.* BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); HONDURAS (*Wittkugel, in mus. Staudinger*); PANAMA, Chiriqui (*Trötsch*<sup>1</sup>).

This species is allied to *U. japix*. The male from Belize is figured.

## CALLIOMMA (I. p. 5).

**Calliomma licastus** (I. p. 5).

*Eucheryx licastus*, Boisd. Sp. gén. des Léop. i. p. 220, Sphing. t. 6, fig. 3 (1874)<sup>1</sup>.

To the localities given, add :—MEXICO, Orizaba (*Flohr; Boucard, in mus. D.*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

This insect is probably not distinct from *C. parcae* (Fabr.).

**1 (A). Calliomma galianna.**

*Sphinx galianna*, Burm. Sphing. Brasil. p. 6 (1856)<sup>1</sup>.

*Calliomma galianna*, Butl. Trans. Z. S. ix. p. 539 (1877)<sup>2</sup>.

*Hab.* MEXICO, Orizaba (*coll. Schaus*).—BRAZIL<sup>1</sup>, Rio Janeiro<sup>2</sup>.

**1 (B). Calliomma denticulatum.** (Tab. LXVIII. fig. 2.)

*Calliomma denticulata*, Schaus, Ent. News, 1895, p. 141<sup>1</sup>.

*Hab.* MEXICO, Jalapa<sup>1</sup>.

Mr. Schaus states<sup>1</sup> that there is a second specimen of this species in the Saunders Collection at Oxford.



**Calliomma thorates** (I. p. 5).

To the localities given, add:—MEXICO, Jalapa (*Schaus, M. Trujillo*), Orizaba (*Flohr; Boucard, in mus. D.*), Mirador (*Höge*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA (*Van Patten*), Candelaria Mts. (*Underwood*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Panama city (*J. J. Walker*).

4. **Calliomma nomius**. (Tab. III. fig. 3.)

*Calliomma nomius*, Walk. Cat. viii. p. 109 (1856)<sup>1</sup>; Butler, Trans. Z. S. ix. p. 539 (1876)<sup>2</sup>.

*Hab.* GUATEMALA, Mirandilla 1700 feet (*Champion*).—VENEZUELA; BRAZIL<sup>1 2</sup>.

One specimen from the Pacific slope of Guatemala, agreeing with others from Venezuela in my own collection.

5. **Calliomma germen**. (Tab. LXVI. fig. 10.)

*Calliomma germen*, Schaus, Ent. Americana, vi. p. 20 (1890)<sup>1</sup>.

*Hab.* MEXICO, Coatepec (*Schaus*<sup>1</sup>), Jalapa (*M. Trujillo*).

The specimen from Jalapa is figured.

6. **Calliomma zurcheri**. (Tab. LXVI. fig. 2.)

*Calliomma zurcheri*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 352 (1894)<sup>1</sup>.

Primaries fawn-colour, shaded with olive-green along the costal margin and outer half of the wing; an olive-green band crosses the wing near the base from the costal to the inner margin, and a second band beyond the cell; a row of lunular-shaped olive-green markings extends across the wing from the middle of the inner margin to the apex; the anal angle is slightly irrorated with black scales; the fringe greenish-fawn-colour; secondaries brownish-black, crossed from near the apex to the anal angle by a wide fawn-coloured band, the outer margin bordered with olive-green, the fringe fawn-colour; the underside of both wings reddish-brown, irrorated with black scales, the outer margins grey, the basal portion of the primaries brownish-black: head, collar, tegulae, thorax, and abdomen fawn-colour shaded with olive-green; antennae greyish-brown. Expanse 4 inches.

*Hab.* COSTA RICA, Santa Clara Valley 1200 feet (*Zurcher*<sup>1</sup>).

A very distinct species, quite unlike any other known to me.

## ENYO (I. p. 6).

**Enyo lugubris** (I. p. 6).

To the localities given, add:—MEXICO, Guadalajara in Jalisco (*Goldsmith, in mus. D.*), Jalapa (*Godman, Schaus, M. Trujillo*), Orizaba (*Boucard, in Mus. D.*), Coatepec (*Brooks*), Cuesta de Misantla (*M. Trujillo*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA (*Van Patten*), Candelaria Mts. (*Underwood*).

**Enyo danum** (I. p. 7).

To the localities given, add:—MEXICO, Paso de San Juan (*Schaus*), Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*), Coatepec (*Brooks*), Temax in North Yucatan (*Gaumer*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA (*Van Patten*), Candelaria Mts. (*Underwood*).

2 (A). **Enyo riscus.** (Tab. LXVI. fig. 3, ♂.)

*Enyo riscus*, Schaus, Ent. Americana, vi. p. 20 (1890) <sup>1</sup>.

*Pachygonia stuarti*, Rothsch. Novit. Zool. i. p. 665 (1894) <sup>2</sup>, ii. t. 9. fig. 11 (1895) <sup>3</sup>.

*Hab.* MEXICO, Rinconada (*Schaus* <sup>1</sup>), Jalapa (*M. Trujillo*), Orizaba (*Boucard*, in *mus. D.*); GUATEMALA, in the city (*Rodriguez*); PANAMA, Chiriqui (*Trötsch*, in *mus. Staudinger*).—PERU <sup>2</sup>.

The Peruvian specimens in my collection are considerably larger than those from Mexico and Guatemala, but in other respects are almost identical. The example from Chiriqui communicated by Dr. Staudinger agrees well with Mr. Rothschild's figure of *Pachygonia stuarti*.

**Enyo gorgon** (I. p. 7).

To the localities given, add:—MEXICO, Jalapa (*Schaus*, *M. Trujillo*), Coatepec (*Brooks*); GUATEMALA, in the city (*Rodriguez*), Coban in Vera Paz (*Conradt*); PANAMA, Bugaba 800 to 1500 feet (*Champion*).

4. **Enyo tædium.** (Tab. LXVI. fig. 4.)

*Enyo tædium*, Schaus, Ent. Americana, vi. p. 19 (1890) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*Schaus* <sup>1</sup>, *M. Trujillo*), Coatepec (*Schaus* <sup>1</sup>); COSTA RICA (*Van Patten*, in *mus. D.*).

## ALEURON (I. p. 7).

**Aleuron chloroptera** (I. p. 7).

To the localities given, add:—MEXICO, Paso de San Juan (*Schaus*), Coatepec (*Brooks*); BRITISH HONDURAS, Cayo (*Blancaneaux*).

1 (A). **Aleuron tachasara.** (Tab. LXV. fig. 7.)

*Aleuron tachasara*, Druce, Ann. & Mag. Nat. Hist. (6) ii. p. 236 (1888) <sup>1</sup>.

*Male.* Primaries brownish-olive-green, crossed from the costal to the inner margin by five indistinct dark brown lines; a silvery-grey mark on the costal margin towards the apex, almost crossing to the middle of the outer margin and then extending to the anal angle; secondaries blackish-brown, greenish at the base and along the costal margin to the apex; the underside of the basal half of the primaries brownish-black, the outer half olive-brown with an indistinct silvery line crossing from near the apex to the inner margin, that of the secondaries olive-brown, with a silvery gloss extending over the wing from the base to the central whitish band, which crosses from the costal margin near the apex to the inner margin: head, thorax, abdomen, and legs brownish-olive-green, the thorax and abdomen paler beneath; antennæ brown. Expanse 4 inches.

*Hab.* MEXICO, Orizaba (*Boucard*, in *mus. D.*), Coatepec (*Brooks*); PANAMA, Chiriqui (*Trötsch*, in *mus. Staudinger* <sup>1</sup>).

The type of this distinct species is in Dr. Staudinger's collection. The female is considerably larger than the male and paler in colour.



**Aleuron iphis** (I. p. 7).

To the localities given, add :—MEXICO, Paso de San Juan (*Schaus*), Coatepec (*Brooks*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); HONDURAS (*Wittkugel, in mus. Staudinger*); GUATEMALA, Volcan de Atitlan 3500 to 4500 feet (*Champion*); PANAMA, Bugaba (*Champion*).

Varies considerably in size and colour.

## GONENYO (I. p. 8).

**Gonenyo carinata** (I. p. 8).

To the localities given, add :—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

## HEMEROPLANES (I. p. 8).

**Hemeroplanes triptolemus** (I. p. 8).

*Hemeroplanes ornatus*, Rothsch. Novit. Zool. i. p. 74, t. 6. fig. 9 (1894)<sup>1</sup>.

To the localities given, add :—MEXICO, Paso de San Juan (*Schaus*).—VENEZUELA &c.<sup>1</sup>

I am unable to separate *H. ornatus*, Rothsch., from *H. triptolemus* (Cram.). Most of the females before me agree with Mr. Rothschild's figure and the males with that of Cramer.

**Hemeroplanes oiclus** (I. p. 8).

To the localities given, add :—MEXICO, Orizaba (*Schaus*).

3. **Hemeroplanes pluto**.

*Sphinx pluto*, Cram. Pap. Exot. iii. p. 40, t. 216. fig. E (1779)<sup>1</sup>.

*Hemeroplanes plutonius*, Hübn. Verz. bek. Schmett. p. 133<sup>2</sup>.

*Calliomma pluto*, Walk. Cat. viii. p. 111<sup>3</sup>.

*Madoryx pluto*, Schaus, Ent. News, 1895, p. 141<sup>4</sup>.

*Madoryx deborrei*, Boisd. Sp. gén. des Léop. i. p. 155 (1875)<sup>5</sup>.

*Hab.* MEXICO, Jalapa (*Schaus*<sup>4</sup>); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—GUIANA, Surinam<sup>1</sup>; BRAZIL<sup>3 5</sup>.

Mr. Schaus states<sup>4</sup> that *Madoryx deborrei*, Boisd., is evidently the female of *H. pluto* (Cram.); the identity was first suggested by Maassen, in the 'Stettiner entomologische Zeitung,' 1880, p. 68.

The larva and pupa of this species are figured by Burmeister.

PERGESA (to follow the genus *Hemeroplanes*, I. p. 8).

*Pergesa*, Walker, Cat. viii. p. 149 (1856); Butler, Trans. Zool. Soc. ix. p. 547 (1876).

1. **Pergesa mexicana**. (Tab. LXVIII. fig. 3.)

*Pergesa mexicana*, Schaus, Ent. Americana, vi. p. 20 (1890)<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*Schaus*<sup>1</sup>).

This is the first species of *Pergesa* described from the New World. We figure one of Mr. Schaus's specimens.

CHÆROCAMPA \* (I. p. 9).

**Chærocampa trilineata** (I. p. 9).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*); BRITISH HONDURAS, Cayo District, Belize (*Sir Alfred Moloney, in mus. D.*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

**Chærocampa libya** (I. p. 9).

To the localities given, add:—MEXICO, Paso de San Juan (*Schaus*), Jalapa (*M. Trujillo*), Teapa in Tabasco (*H. H. Smith*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

2 (A). **Chærocampa damocrita**. (Tab. LXVI. fig. 8.)

*Chærocampa damocrita*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 168 (1894)<sup>1</sup>.

*Male*. Primaries dark brown, thickly marked with black streaks near the base and along the costal margin; a pale brown line extends from the base, partly along the inner margin and then crosses the wing to the apex; on both sides of the pale line are several narrow dark brown lines; a golden-brown mark just above the anal angle; the outer margin finely speckled with minute black dots; secondaries black, with a rather wide golden-brown submarginal band extending from the apex to the anal angle; the underside of both wings bright reddish-brown, thickly irrorated with black scales: head, thorax, and abdomen dark brown, the sides of the head and thorax fawn-colour, the sides of the abdomen streaked with golden-brown.—*Female*. Very similar to the male, but larger, and with the black spots on the primaries more distinct. Expanse, ♂ 3, ♀ 3½ inches.

*Hab.* MEXICO, Jalapa (*M. Trujillo*<sup>1</sup>).

This species is allied to *C. libya*.

**Chærocampa lælia** (I. p. 9).

To the localities given, add:—COSTA RICA, Santa Clara Valley 1200 feet (*Zurcher*).

3 (A). **Chærocampa turbata**. (Tab. LXVI. fig. 6.)

*Chærocampa turbata*, H. Edwards, Ent. Americana, iii. p. 89 (1887)<sup>1</sup>.

*Hab.* MEXICO, Vera Cruz (*Schaus*<sup>1</sup>); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*)

The specimen from Belize is figured.

**Chærocampa porcus** (I. p. 9).

To the localities given, add:—MEXICO, Orizaba (*Boucard, in mus. D.*).

**Chærocampa tersa** (I. p. 10).

To the localities given, add:—MEXICO, Guadalajara in Jalisco (*Goldsmith, in mus. D.*),

\* Incorrectly written *Chærocampa* in the earlier part of this work: see Duponchel (Hist. Nat. Lép. Fr., Suppl. ii. p. 159, nota), who gives the derivation of the word—*χοῖρος*, pig, and *κάμπη*, caterpillar.



Jalapa (*M. Trujillo*, *Schaus*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA (*Van Patten*), Santa Clara Valley 1200 feet (*Zurcher*), Candelaria Mts. (*Underwood*).

The Costa Rican specimens are darker than usual. The larva and pupa of this species are well figured by Abbot and Smith, also by Burmeister.

7 (A). **Chærocampa eumedon.** (Tab. LXVI. fig. 9.)

*Chærocampa eumedon*, Boisd. Sp. gén. des Lép. i. p. 272<sup>1</sup>; Butl. Trans. Z. S. ix. p. 631<sup>2</sup>.

*Chærocampa ortospina*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 77 (1889)<sup>3</sup>; *Schaus*, Ent. News, 1895, p. 141<sup>4</sup>.

*Hab.* MEXICO<sup>1</sup>, Jalapa (*Schaus*), Coatepec (*Brooks*<sup>3</sup>), Orizaba (*Boucard*, *in mus. D.*); GUATEMALA, in the city (*Rodriguez*).

I have not seen Boisduval's type, but sink my species upon Mr. *Schaus*'s authority<sup>4</sup>.

**Chærocampa belti** (I. p. 11).

To the locality given, add:—MEXICO, Orizaba (*Schaus*); PANAMA, Chiriqui (*Trötsch*, *in mus. Staudinger*).

Two specimens, precisely similar to the type.

**Chærocampa nitidula** (I. p. 11).

To the localities given, add:—MEXICO, Jalapa (*Schaus*, *M. Trujillo*, *Höge*); GUATEMALA, Volcan de Atitlan 2500 to 3000 feet (*Champion*); COSTA RICA (*Van Patten*).

13. **Chærocampa drucei.**

*Chærocampa cyrene*, Druce, anteà, i. p. 11, t. 1. fig. 5 (nec Westw.).

*Theretra drucei*, Kirby, Cat. Lep. Het. p. 658 (1892).

The name *cyrene* being preoccupied in the genus, Mr. Kirby has renamed the Central-American insect.

13 (A). **Chærocampa docilis.**

*Chærocampa docilis*, Butl. P. Z. S. 1875, p. 9<sup>1</sup>; Trans. Z. S. ix. p. 564, t. 94. fig. 1<sup>2</sup>.

*Theretra staudingeri*, Rothsch. Novit. Zool. i. p. 76 (1894)<sup>3</sup>.

*Theretra stuarti*, Rothsch. Novit. Zool. i. p. 665, ii. t. 9. fig. 10<sup>4</sup>.

*Hab.* MEXICO, Orizaba (*Boucard*, *in mus. D.*), Jalapa (*M. Trujillo*); HONDURAS (*Wittkugel*, *in mus. Staudinger*); PANAMA, Chiriqui (*Staudinger*<sup>3</sup>), Volcan de Chiriqui 4000 to 5000 feet (*Champion*).—ECUADOR<sup>12</sup>; PERU<sup>3</sup>.

I am quite unable to separate *C. staudingeri* or *C. stuarti* (Rothsch.) from the variable *C. docilis*, Butl. The long series of specimens before me vary in colour from green to brown.

13 (B). *Chærocampa jocasta*. (Tab. LXV. fig. 6.)

*Chærocampa jocasta*, Druce, Ann. & Mag. Nat. Hist. (6) ii. p. 237 (1888)<sup>1</sup>.

Primaries pale silvery-fawn-colour, thickly mottled with olive-brown; a wide central olive-brown band crosses the wing from the costal to the inner margin; on the outer side of the band two indistinct waved lines, beyond which are two patches of olive-green, the first close to the apex, the second the largest and about the middle on the costal margin; secondaries blackish-brown, with an indistinct fawn-coloured band crossing the wing from the anal angle to near the apex; the underside pale yellowish-fawn-colour, thickly irrorated with dark brown scales, a narrow blackish line crossing the middle of both wings: head, thorax, and base of the abdomen olive-green, the underside of the thorax and the rest of the abdomen pale yellowish-fawn-colour, the legs and tegulæ similarly coloured; antennæ greenish. Expanse  $3\frac{1}{4}$  inches.

*Hab.* MEXICO, Jalapa (*Schaus*); GUATEMALA (*mus. Staudinger*<sup>1</sup>).—PERU.

Described from a specimen in Dr. Staudinger's collection, and subsequently found by Mr. Schaus at Jalapa. I also possess a specimen of it from Peru.

13 (C). *Chærocampa potentia*. (Tab. LXVI. fig. 5.)

*Chærocampa potentia*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 169 (1894)<sup>1</sup>.

*Male.* Primaries pale fawn-colour, darker along the costal margin from the base almost to the apex; the costal margin itself dark yellow; a small black dot at the end of the cell; a rather wide dark brown line extends from the base to about the middle of the inner margin and then crosses to the apex; the outer margin of the wing thickly irrorated with black scales; the fringe dark brown; secondaries dark brownish-black; the inner margin, apex, and outer margin fawn-colour; the underside of both wings pale yellowish-fawn-colour, thickly irrorated with brownish-black scales, the basal half of the primaries black: head, thorax, and the upperside of the abdomen pale brown; the sides of the head, thorax, and underside of the abdomen pale brownish-white; legs pale brown; antennæ white above, dark brown beneath. Expanse 4 inches.

*Hab.* MEXICO (*mus. Staudinger*<sup>1</sup>).

This species resembles *C. clotho* (Drury), but the brown line crossing the primaries is in a very different position.

13 (D). *Chærocampa tyndarus*.

*Chærocampa tyndarus*, Boisd. Sp. gén. des Lép. i. p. 264, Sphing. t. 4. fig. 5<sup>1</sup>; Butl. Trans. Z. S. ix. p. 631<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Flohr*; *Boucard, in mus. D.*); HONDURAS (*mus. Staudinger*), San Pedro Sula (*Wittkugel, in mus. D.*).—BRAZIL<sup>1</sup>.

*Chærocampa nechus* (I. p. 12).

To the localities given, add:—MEXICO, Jalapa (*Schaus, M. Trujillo*), Orizaba (*Flohr*; *Boucard, in mus. D.*); GUATEMALA, in the city (*Rodriguez*), Coban in Vera Paz (*Conradt*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

16 (A). *Chærocampa godmani*. (Tab. III. fig. 2.)

*Chærocampa godmani*, Druce, Ent. Monthly Mag. xix. p. 16 (1882)<sup>1</sup>.

Primaries dark greyish-brown at the base, which colour extends beyond the middle, the apical third ochreous, clouded with dark brown; several indistinct lines crossing the wing from the inner margin to the black



discal dot; secondaries shining dark slaty-brown, the outer margin dark brown, a small ochreous spot close to the anal angle; the underside of the primaries dark brown, richly clouded with red and yellow scales near the apex, that of the secondaries greyish-brown, crossed in the middle by three indistinct dark lines speckled with reddish scales: head, thorax, and abdomen above dark brown, the sides black, bordered above with red and beneath with white lines, the underside pale brown. Expanse  $3\frac{3}{8}$  inches.

*Hab.* PANAMA, Volcan de Chiriqui (*Champion* <sup>1</sup>).

One specimen. The insect is nearest allied to *C. falco*, Walk.

**Chærocampa falco** (I. p. 12).

To the localities given, add:—MEXICO, Durango city (*Becker*), Mexico city (*Höge*); GUATEMALA, in the city (*Rodriguez*).

Apparently a rare insect. The specimen from Guatemala is darker in colour than those from Mexico.

**Chærocampa ceratomioides** (I. p. 12).

To the localities given, add:—MEXICO, Coatepec (*Schaus*), Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*); GUATEMALA, in the city (*Rodriguez*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

Burmeister has separated the southern form (from Paraguay and the Argentine Republic) from *C. ceratomioides* under the name *xylobates*, but I do not think they can be retained as distinct.

EVERYX (to follow the genus *Chærocampa*, I. p. 12).

*Everyx*, Ménétries, Enum. Corp. Anim. Mus. Petr., Lep. ii. p. 93 (1857); Boisduval, Sp. gén. des Léop. i. p. 208 (1874); Butler, Trans. Z. S. ix. p. 631 (1876).

*Otus*, Hübner, Verz. bek. Schmett. p. 142 (1816).

1. **Everyx astyanor**.

*Everyx astyanor*, Boisd. Sp. gén. des Léop. i. p. 211 <sup>1</sup>.

*Hab.* ? MEXICO.

This species is unknown to me.

DEILEPHILA (I. p. 12).

**Deilephila lineata** (I. p. 13).

To the localities given, add:—MEXICO, Durango city (*Becker*), Mexico city (*Höge*), Jalapa (*Schaus, M. Trujillo*), Coatepec (*Brooks*), Cuesta de Misantla (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*); GUATEMALA, in the city (*Rodriguez*).

PHILAMPELUS (I. p. 13).

**Philampelus vitis** (I. p. 13).

To the localities given, add:—MEXICO, Mazatlan (*Forrer*), Jalapa (*Schaus*), Coatepec (*Brooks*); NICARAGUA, Matagalpa (*Richardson*).

**Philampelus linnei** (I. p. 13).

To the localities given, add:—MEXICO, Durango city (*Becker*), Jalapa (*Schaus, M. Trujillo*), Orizaba (*Boucard, in mus. D.*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); GUATEMALA, in the city (*Rodriguez*); NICARAGUA, Matagalpa (*Richardson*); PANAMA, Taboga I. (*J. J. Walker*).

**Philampelus typhon** (I. p. 14).

To the Mexican locality given, add:—Near Durango city (*Becker*).

3 (A). **Philampelus achemon**.

*Sphinx achemon*, Drury, Illustr. Exot. Ins. ii. p. 51, t. 29. fig. 1 (1773) <sup>1</sup>.

*Philampelus achemon*, Harris, Amer. Journ. Sci. xxxvi. p. 300 (1839) <sup>2</sup>; Walk. Cat. viii. p. 174 <sup>3</sup>;

Scudder, Harris Corresp. p. 283, t. 3. fig. 11 (1869) <sup>4</sup>; Butl. Trans. Z. S. ix. p. 575 <sup>5</sup>.

*Sphinx crantor*, Cram. Pap. Exot. ii. p. 11, t. 104. fig. A (1779) <sup>6</sup>; Abbot & Smith, Nat. Hist. Lep., Ins. Georgia, i. p. 81, t. 41 <sup>7</sup>.

*Pholus crantor*, Hübn. Verz. bek. Schmett. p. 134 <sup>8</sup>.

*Hab.* NORTH AMERICA, New York <sup>3 5</sup>, California.—MEXICO, near Durango city (*Becker*).—ANTILLES, Jamaica <sup>1</sup>.

4. **Philampelus licaon**.

*Sphinx licaon*, Cram. Pap. Exot. i. p. 86, t. 55. fig. A (1779) <sup>1</sup>.

*Philampelus lycaon*, Butl. Trans. Z. S. ix. p. 576 <sup>2</sup>.

*Philampelus pandorus* (Hübn.), anteà, i. p. 14.

To the localities given, add:—MEXICO (*Sallé* <sup>2</sup>), Mazatlan (*Forrer*), Jalapa (*Schaus, Höge, M. Trujillo*), Orizaba (*Boucard, in mus. D.*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); GUATEMALA, in the city (*Rodriguez*).

At the time I identified this species, I had no North-American specimens for comparison. There can be little doubt that *P. pandorus* (Hübn.) is nothing more than a northern form of *P. licaon* (Cram.).

**Philampelus satellitia** (I. p. 14).

To the localities given, add:—MEXICO, Jalapa (*Schaus, M. Trujillo*), Orizaba (*Boucard, in mus. D.*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA (*Van Patten*), Candelaria Mts. (*Underwood*); PANAMA, Bugaba (*Champion*).

Costa Rican specimens are considerably darker in colour than those from Mexico. The larva of this species is described by Saunders, Rep. Ent. Soc. Ont. 1881, pp. 18, 19, figg. 1, 2.

**Philampelus labruscæ** (I. p. 14).

To the localities given, add:—MEXICO, Orizaba (*Boucard, in mus. D.*), Jalapa (*Schaus, M. Trujillo*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA (*Van Patten*).



## PACHYLIA (I. p. 15).

**Pachylia ficus** (I. p. 15).

To the localities given, add:—MEXICO, Durango city (*Becker*), Guadalajara in Jalisco (*Goldsmith, in mus. D.*), Jalapa (*Schaus, Höge, M. Trujillo*), Cordova (*Höge*), Coatepec (*Brooks*); GUATEMALA, in the city (*Rodriguez*), Solola (*Richardson*), Volcan de Atitlan (*Champion*); COSTA RICA, Candelaria Mts. (*Underwood*), Santa Clara Valley 1200 feet (*Zurcher*); PANAMA, Bugaba (*Champion*).

**Pachylia syces** (I. p. 15).

To the localities given, add:—MEXICO, Jalapa (*Schaus*), Cuesta de Misantla (*M. Trujillo*); COSTA RICA (*Van Patten*).

**Pachylia resumens** (I. p. 16).

*Pachylia inconspicua*, Walk. Cat. viii. p. 190 (1856)<sup>1</sup>; Butl. Trans. Z. S. ix. p. 579<sup>2</sup>.

To the localities given, add:—MEXICO, Orizaba (*Boucard, in mus. D.*), Jalapa (*Schaus, M. Trujillo*), Coatepec (*Brooks*), Cuesta de Misantla (*M. Trujillo*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); GUATEMALA, in the city (*Rodriguez*), Volcan de Atitlan (*Champion*).—ANTILLES, Jamaica<sup>1 2</sup>.

According to Mr. Schaus (Ent. News, 1895, p. 141), *P. inconspicua*, Walk., is a large female of *P. resumens*.

## AMBULYX (I. p. 16).

**Ambulyx strigilis** (I. p. 16).

To the localities given, add:—MEXICO, Jalapa (*Schaus, M. Trujillo*), Coatepec (*Brooks*), Orizaba (*Boucard, in mus. D.*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA (*Van Patten*), Candelaria Mts. (*Underwood*).

**Ambulyx gannascus** (I. p. 16).

To the localities given, add:—MEXICO, Jalapa (*Schaus, M. Trujillo*), Orizaba (*F. D. G.*), Coatepec (*Brooks*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA (*Van Patten*), Candelaria Mts. (*Underwood*).

3 (A). **Ambulyx donysa**. (Tab. LXVI. fig. 7.)

*Ambulyx donysa*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 78 (1889)<sup>1</sup>.

*Male*. Primaries from the base to the middle pinkish-fawn-colour and from the middle to the outer margin shaded with dark brown and olive-green; a large oval-shaped dark brown spot near the base, which extends from the inner margin across the wing, but does not reach the costal margin; a dark brown line crosses the wing about the middle from the costal to the inner margin; an indistinct dark brown marking on the inner margin close to the anal angle; three waved lines cross the wing from the costal margin near the apex to near the inner margin, but do not quite reach it; the apex is pale fawn-colour; secondaries bright rose-pink, crossed from near the apex to the anal angle by a wide black band, deeply dentated on

the outer edge; above the black band are two very indistinct, narrow, brownish-black lines; the inner margin and two spots close to the anal angle pale yellowish-fawn-colour; the underside of both primaries and secondaries pale yellowish-fawn-colour, the primaries from the base to about the middle dark rose-pink: head and front of the thorax pale brown, the tegulæ and base of the thorax and abdomen dark brown; the underside of the head, thorax, and abdomen pale yellow; legs and antennæ dark brown.—*Female*. Very similar to the male, but larger, and with most of the lines crossing the primaries very indistinct. Expanse, ♂  $4\frac{3}{4}$ , ♀ 5 inches.

*Hab.* MEXICO, Cuesta de Misantla<sup>1</sup>, Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*); GUATEMALA, in the city (*Rodriguez*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

This very distinct species is allied to *A. gannascus* (Stoll) and *A. rostralis*, Boisd.

The specimen from Orizaba is very much darker than any of the others before me, and on the underside it is reddish-brown instead of yellow. It may belong to another species.

#### TRIPTOGON (to precede the genus *Smerinthus*, I. p. 17).

*Triptogon*, Bremer, Bull. Acad. Imp. Sci. St. Pétersb. iii. p. 474 (1861); Butler, P. Z. S. 1875, p. 253; Trans. Z. S. ix. p. 586.

##### 1. *Triptogon modesta*, var. *occidentalis*. (Tab. LXVII. fig. 2.)

*Smerinthus modestus*, Harris, var. *occidentalis*, H. Edwards, Proc. Calif. Acad. Sci. vi. p. 92 (1876)<sup>1</sup>.

*Hab.* NORTH AMERICA, California<sup>1</sup>.—MEXICO, near Durango city (*Becker*).

Probably a southern form of *T. modesta*.

#### SMERINTHUS (I. p. 17).

##### *Smerinthus saliceti* (I. p. 17).

To the locality MEXICO, add:—Near Durango city (*Becker*), Guadalajara (*Goldsmith*).

##### 3. *Smerinthus* (?) *pseudambulyx*. (Tab. LXVIII. fig. 4.)

*Smerinthus* (?) *pseudambulyx*, Boisd. Sp. gén. des Lép. i. p. 29 (1874)<sup>1</sup>.

*Hab.* MEXICO<sup>1</sup> (*coll. Schaus*).

This species closely resembles *Ambulyx donysa*, Druce; it was accidentally omitted in the earlier part of this work.

#### AMPHONYX (I. p. 17).

##### *Amphonyx duponcheli* (I. p. 17).

*Amphonyx godartii*, Boisd. Sp. gén. des Lép. i. p. 65 (1874)<sup>1</sup>; Schaus, Ent. News, 1895, p. 142<sup>2</sup>.  
*Cocytius affinis*, Rothsch. Novit. Zool. i. p. 92 (1894)<sup>3</sup>.

To the localities given, add:—MEXICO<sup>2</sup>, Jalapa (*Schaus, Höge*), Orizaba (*Boucard, in*



*mus. D.*); GUATEMALA, in the city (*Rodriguez*), Coban in Vera Paz (*Conradt*); COSTA RICA (*Van Patten*), Candelaria Mts. (*Underwood*); CENTRAL AMERICA<sup>3</sup>.—VENEZUELA<sup>2 3</sup>; BRAZIL, Minas Geraes<sup>1</sup>.

The name *A. godartii*, Boisd., must be sunk as a synonym of *A. duponcheli*, described and figured by Poey.

The twenty-five specimens before me from our region agree well with others (including both sexes) from Cuba in my own collection, and also with Poey's figure.

Mr. Rothschild's statement (*op. cit.* p. 91) that I figured a specimen of the true *A. godartii* under the name of *A. rivularis* is not correct: in error I figured *A. beelzebuth*.

### **Amphonyx medor** (I. p. 17).

*Amphonyx tapayusa*, Moore, Proc. Liverpool Soc. xxxvii. p. 245 (1883)<sup>1</sup>; E. D. Jones, *op. cit.* p. 246, t. 7. fig. 1 (larva)<sup>2</sup>.

To the localities given, add:—MEXICO, Cuesta de Misantla (*M. Trujillo*), Guadalajara in Jalisco (*Goldsmith, in mus. D.*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); GUATEMALA, in the city (*Rodriguez*).—BRAZIL<sup>1 2</sup>.

Mr. Schaus has already noted (*Ent. News*, 1895, p. 142) the identity of *A. tapayusa*, Moore, with *A. medor* (Cram.). I cannot agree with Mr. Rothschild in regarding *A. medor* as synonymous with *A. hydaspus* (Cram.), in which species each segment of the abdomen is spotted, a character well shown in the figure.

I have before me some thirty specimens of *A. medor* from Central and South America, not one of which shows the faintest trace of spots.

### **Amphonyx rivularis** (I. p. 18).

To the localities given, add:—MEXICO, Cuesta de Misantla (*M. Trujillo*).

Mr. Schaus (*Ent. News*, 1895, p. 142) also records it from Mexico.

### 3 (A). **Amphonyx beelzebuth**. (*A. rivularis*, Tab. III. fig. 4.)

*Amphonyx beelzebuth*, Boisd. Sp. gén. des Léop. i. p. 63, Sphing. t. 5. fig. 1 (wrongly named *A. godartii* in the index and lettering of the plate)<sup>1</sup>; Schaus, *Ent. News*, 1895, p. 142<sup>2</sup>.

*Hab.* PANAMA, Bugaba 800 to 1500 feet (*Champion*).—BRAZIL<sup>1</sup>.

### 3 (B). **Amphonyx walkeri**. (Tab. LXV. fig. 4.)

*Amphonyx walkeri*, Boisd. Sp. gén. des Léop. i. p. 67 (1874)<sup>1</sup>; Schaus, *Ent. News*, 1895, p. 142<sup>2</sup>.

*Amphonyx staudingeri*, Druce, Ann. & Mag. Nat. Hist. (6) ii. p. 237 (1888)<sup>3</sup>.

*Cocytius magnificus*, Rothsch. Novit. Zool. i. p. 92, t. 7. fig. 21 (1894)<sup>4</sup>.

*Hab.* NICARAGUA, Chontales (*Belt, mus. Oron.*<sup>3</sup>); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*<sup>3</sup>).—GUIANA<sup>1 4</sup>.

Mr. Rothschild's figure appears to have been drawn from a very faded specimen.

**Amphonyx cluentius** (I. p. 18).

*Amphonyx cluentius* (Clem.), H. Edwards, Papilio, iv. p. 11 (1884) <sup>1</sup>.

To the localities given, add :—MEXICO, Jalapa and Orizaba in Vera Cruz (*Schaus* <sup>1</sup>), Cuesta de Misantla (*M. Trujillo*); GUATEMALA, Coban (*Conradt*); COSTA RICA (*Van Patten*).

We have only received three specimens of this species from our region.

**ANCERYX** (I. p. 18).**Anceryx alope** (I. p. 18).

To the localities given, add :—MEXICO, Guadalajara in Jalisco (*Goldsmith, in mus. D.*), Coatepec (*Brooks*), Jalapa (*Schaus, M. Trujillo*), Orizaba (*Boucard, in mus. D.*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

Mr. Schaus (Ent. News, 1895, p. 144) considers *Sphinx fasciata*, Swains. (Zool. Illustr. iii. t. 150. fig. 2), to be conspecific with this insect, but in this I do not agree with him. Swainson's species is always smaller and paler than *A. alope*.

**ISOGNATHUS** (I. p. 18).**2. Isognathus inclitus.** (Tab. LXVII. fig. 1.)

*Isognathus inclitus*, H. Edwards, Ent. Americana, iii. p. 90 (1887) <sup>1</sup>.

*Hab.* MEXICO, Vera Cruz (*Schaus* <sup>1</sup>), Jalapa (*F. D. Godman, M. Trujillo*), Orizaba (*Boucard, in mus. D.*); GUATEMALA, in the city (*Rodriguez*); NICARAGUA, Matagalpa (*Richardson*); COSTA RICA (*Van Patten*), Candelaria Mts. (*Underwood*).

Our specimens agree well with Edwards's description. The species is allied to *I. laura*, Butl., from Venezuela.

**3. Isognathus yucatanus.** (Tab. LXV. fig. 1.)

*Isognathus yucatanus*, Druce, Ann. & Mag. Nat. Hist. (6) ii. p. 238 (1888) <sup>1</sup>.

Primaries pale grey, thickly irrorated with dark brown scales, and very indistinctly banded with a waved brown line, which crosses the wing from the costal to the inner margin; a zigzag black line crosses from the costal margin beyond the middle nearest the apex to the middle of the inner margin, where it joins a black streak from the base, and a marginal row of black spots extends from the apex to the anal angle; secondaries reddish, broadly bordered with brownish-black from the apex almost to the anal angle, where they are greyish; the underside of both wings reddish-brown, paler near the base: head, thorax, and abdomen brownish-grey; the abdomen with two central narrow brown lines extending from the base to the anus; the underside of the thorax and abdomen paler than above; antennæ and legs greyish-brown. Expanse  $3\frac{1}{2}$  inches.

*Hab.* MEXICO, Orizaba (*Flohr; Boucard, in mus. D.*), Jalapa (*M. Trujillo*), Yucatan (*mus. Staudinger* <sup>1</sup>).

The type is in Dr. Staudinger's collection. This species resembles *Dilophonota ello* in colour, but may be at once distinguished from it by its different form and the entire absence of the black band on the abdomen.



CAUTETHIA (to follow the genus *Isognathus*, I. p. 18).

*Enosanda*, Walker, Cat. viii. p. 231 (1856); Boisdual, Sp. gén. des Lép. i. p. 318 (nomen præocc.).

*Cautethia*, Grote, Ann. Lyc. Nat. N. York, viii. p. 202 (1867); Kirby, Cat. Lep. Het. i. p. 699 (1892).

Boisdual placed this genus among the Macroglossæ, as also H. Edwards. Walker's name *Enosanda* is preoccupied, according to Mr. Kirby.

1. *Cautethia spuria*.

*Enosanda spuria*, Boisd. Sp. gén. des Lép. i. p. 319, Sphing. t. 8. fig. 3 (1874)<sup>1</sup>.

*Hab.* MEXICO<sup>1</sup>, Jalapa (*M. Trujillo*).

Accidentally omitted in the earlier part of this work.

## DILOPHONOTA (I. p. 18).

*Dilophonota ello* (I. p. 19).

To the localities given, add:—MEXICO, Durango city (*Becker*), Puebla (*Richardson*), Guadalajara in Jalisco (*Goldsmith, in mus. D.*), Orizaba (*Boucard, in mus. D.*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); GUATEMALA, in the city (*Rodriguez*), Solola (*Richardson*); COSTA RICA, Candelaria Mts. (*Underwood*), Santa Clara Valley, 1200 feet (*Zurcher*).

*Dilophonota ænotrus* (I. p. 19).

To the localities given, add:—MEXICO, Guadalajara in Jalisco (*Goldsmith, in mus. D.*), Jalapa (*Schaus. M. Trujillo*), Orizaba (*Boucard, in mus. D.*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); GUATEMALA, in the city (*Rodriguez*), Quezaltenango, Solola (*Richardson*); COSTA RICA, Candelaria Mts. (*Underwood*).

3 (A). *Dilophonota merianæ*.

*Erinnyis merianæ*, Grote, Proc. Ent. Soc. Phil. v. p. 75, t. 2. fig. 2 (1865)<sup>1</sup>.

*Anceryx merianæ*, Boisd. Sp. gén. des Lép. i. p. 128 (1874)<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*); NICARAGUA<sup>2</sup>; COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA (*Whitely, in mus. D.*).—ECUADOR; CUBA<sup>1 2</sup>.

*Dilophonota obscura* (I. p. 19).

*Dilophonota (Anceryx) rhæbus* (Boisd.), anteà, i. p. 19.

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Flohr*); GUATEMALA, in the city (*Rodriguez*).

*Dilophonota rhæbus* (Boisd.) is inseparable from this species.

5 (A). **Dilophonota festa.**

*Dilophonota festa*, H. Edwards, Papilio, ii. p. 11 (1882) <sup>1</sup>.

*Hab.* NORTH AMERICA, N.W. Texas <sup>1</sup>.—MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Santa Clara Valley 1200 feet (*Zurcher*).

Central-American specimens agree with Edwards's description, but I have not seen the type.

ORYBA (to follow the genus *Dilophonota*, I. p. 20).

*Oryba*, Walker, Cat. viii. p. 197 (1856).

1. **Oryba achemenides.**

*Sphinx achemenides*, Cram. Pap. Exot. iii. p. 53, t. 225. fig. C (1797) <sup>1</sup>.

*Clanis achemenides*, Hübn. Verz. bek. Schmett. p. 138 <sup>2</sup>; Druce, Ann. & Mag. Nat. Hist. (6) v. p. 214 <sup>3</sup>.

*Oryba achemenides*, Schaus, Ent. News, 1895, p. 141 <sup>4</sup>.

*Oryba robusta*, Walk. Cat. viii. p. 197 (1856) (nec Boisd.) <sup>5</sup>; Rothschild, Novit. Zool. i. p. 88 (1894) <sup>6</sup>.

*Hab.* HONDURAS (*mus. D.*).—COLOMBIA <sup>3</sup>; TRINIDAD <sup>6</sup>; BRAZIL.

Had Mr. Rothschild read Walker's description of *O. robusta*, instead of Boisduval's description of Walker's species, he would have found that it was quite distinct from *O. imperialis*, Druce (= *Pachylia kadenii*, Schauf.). The type of *O. robusta*, Walk., is in the Oxford Museum.

2. **Oryba kadeni.** (*Clanis imperialis*, Tab. III. fig. 1.)

*Pachylia kadenii*, Schauf. Nunq. Otiosus, i. p. 16 (1870) <sup>1</sup>.

*Oryba kadenii*, Schaus, Ent. News, 1895, p. 141 <sup>2</sup>.

*Pachylia robusta*, Boisd. Sp. gén. des Lép. i. p. 135 (1874) (nec Walker) <sup>3</sup>.

*Oryba imperialis*, Druce, Ann. & Mag. Nat. Hist. (6) v. p. 213 (1890) <sup>4</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe*, in *mus. Staudinger* <sup>4</sup>).—SOUTH AMERICA <sup>1</sup>, Brazil <sup>3</sup>, Peru <sup>4</sup>.

PROTOPARCE (I. p. 20).

**Protoparce rustica** (I. p. 20).

To the localities given, add:—MEXICO, Durango city (*Becker*), Jalapa (*Schaus*, *M. Trujillo*), Orizaba (*Boucard*, in *mus. D.*), Cuesta de Misantla (*M. Trujillo*), Teapa in Tabasco (*H. H. Smith*), Merida in Yucatan (*F. D. G.*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA (*Van Patten*), Candelaria Mts. (*Underwood*).

**Protoparce ochus** (I. p. 20).

To the localities given, add:—MEXICO, Cuesta de Misantla (*M. Trujillo*), Orizaba (*Boucard*, in *mus. D.*), Teapa in Tabasco (*H. H. Smith*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney*, in *mus. D.*); COSTA RICA (*Van Patten*).



**Protoparce carolina** (I. p. 21).

To the localities given, add:—MEXICO, Durango city (*Becker*), Jalapa (*Schaus*, *M. Trujillo*), Cuesta de Misantla (*M. Trujillo*), Orizaba (*Boucard*, in *mus. D.*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney*, in *mus. D.*); GUATEMALA, in the city (*Rodriguez*); NICARAGUA, Matagalpa (*Richardson*); COSTA RICA (*Van Patten*).

3 (A). **Protoparce petuniæ**.

*Sphinx petuniæ*, Boisd. Sp. gén. des Lép. i. p. 73, Sphing. t. 5. fig. 2 (1874)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*).—SOUTH AMERICA, Brazil<sup>1</sup>, Buenos Ayres<sup>1</sup>.

Mr. Kirby in his Catalogue of Heterocera (i. p. 689) places Boisduval's name as a synonym of *P. diffusa*, Butl., but in this I do not follow him. *P. petuniæ* is stated<sup>1</sup> to be a plague in gardens, the larva living upon tobacco and capsicum plants.

3 (B). **Protoparce capsici**. (Tab. LXVII. fig. 4.)

*Sphinx capsici*, Boisd. Sp. gén. des Lép. i. p. 80 (1874)<sup>1</sup>.

*Protoparce capsici*, Schaus, Ent. News, 1895, p. 143<sup>2</sup>.

*Pseudosphinx morelia*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 169 (1894)<sup>3</sup>.

*Hab.* MEXICO, Orizaba (*Boucard*, in *mus. D.*<sup>3</sup>), Jalapa (*M. Trujillo*).—COLOMBIA, Bogota<sup>1</sup>.

I have only seen two specimens of this fine insect.

3 (C). **Protoparce celeus**.

*Phlegethontius celeus*, Hübn. Samml. exot. Schmett. ii. t. 164. figg. 3, 4 (1806–1824)<sup>1</sup>.

*Protoparce celeus*, Butl. Trans. Z. S. ix. p. 607 (1876)<sup>2</sup>.

*Sphinx carolina*, Donovan. Nat. Hist. Brit. Ins. ii. t. 361 (1804)<sup>3</sup> (nec Linn.).

*Sphinx quinquemaculata*, Steph. Illustr. Brit. Ent., Haust. i. p. 119 (1828)<sup>4</sup>; Boisd. Sp. gén. des Lép. i. p. 76 (1874)<sup>5</sup>.

*Macrosila quinquemaculata*, Clem. Journ. Acad. Nat. Sci. Phil. iv. p. 166 (1859)<sup>6</sup>.

*Hab.* NORTH AMERICA, United States<sup>2 5 6</sup>.—MEXICO, Durango city (*Becker*), Jalapa (*Schaus*, *M. Trujillo*).

**Protoparce jamaicensis** (I. p. 21).

According to Mr. Schaus (Ent. News, 1895, p. 142), who has examined the types, *P. jamaicensis*, Butl. = *Sphinx nicotianæ*, Boisd. [Sp. gén. des Lép. i. p. 75 (1874)], the type of which was from Colombia; Boisduval's name will therefore have to be used. In my opinion *P. jamaicensis* is very doubtfully distinct from *P. carolina*, intermediate forms occurring.

**Protoparce lucetius** (I. p. 21).

To the localities given, add:—MEXICO, Orizaba (*Flohr*), Cordova (*Rümeli*, *Höge*), Jalapa (*Schaus*, *M. Trujillo*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA (*Van Patten*).

Cramer's figure is a very bad one, but I have very little doubt that the specimens I have included under this name belong to his species.

6 (A). **Protoparce dilucida.** (Tab. LXVIII. fig. 5.)

*Protoparce dilucida*, H. Edwards, Ent. Americana, iii. p. 89 (1887)<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*Schaus*<sup>1</sup>).

The specimen figured is in Mr. Schaus's collection.

6 (B). **Protoparce indistincta.**

*Phlegethontius indistincta*, Rothsch. Novit. Zool. i. p. 93 (1894)<sup>1</sup>.

*Hab.* HONDURAS<sup>1</sup>.

To judge from the description, this species appears to be very near *P. dilucida*, H. Edwards.

**Protoparce cingulata** (I. p. 21).

To the localities given, add:—MEXICO, Durango city (*Becker*), Jalapa (*Schaus*, *Höge*, *M. Trujillo*), Cuesta de Misantla (*M. Trujillo*), Orizaba (*Boucard*, *in mus. D.*); GUATEMALA, in the city (*Rodriguez*); NICARAGUA, Matagalpa (*Richardson*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Bugaba (*Champion*).

PSEUDOSPHEX (I. p. 22).

**Pseudosphinx tetrico** (I. p. 22).

To the localities given, add:—MEXICO, Guadalajara in Jalisco (*Goldsmith*, *in mus. D.*), Puebla (*Richardson*), Jalapa (*Schaus*, *M. Trujillo*), Coatepec (*Brooks*), Orizaba (*Boucard*, *in mus. D.*), Progreso in Yucatan (*F. D. G.*); GUATEMALA, in the city (*Rodriguez*), Solola (*Richardson*); COSTA RICA, Candelaria Mts. (*Underwood*).

2. **Pseudosphinx crocala.** (Tab. LXVII. fig. 5.)

*Pseudosphinx crocala*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 169 (1894)<sup>1</sup>.

Primaries dark brown; a few scales at the base; a wide band crossing the wing, about the middle, from the costal to the inner margin; the apex and outer margin dark grey, irrorated with brown scales; a zigzag black line extends from the apex, curving round to the costal margin; the fringe alternately brown and grey; secondaries dark brown, slightly greyish at the base; the underside brown, paler at the base of both wings: head, thorax, and abdomen greyish-brown; a row of black spots on each side of the abdomen; the underside of the thorax and abdomen white; legs pale brown; antennæ grey above, dark brown beneath. Expanse  $4\frac{1}{2}$  inches.

*Hab.* HONDURAS (*Wittkugel*, *in mus. Staudinger*<sup>1</sup>).

DOLBA (I. p. 22).

**Dolba hartwegi** (I. p. 22).

To the localities given, add:—HONDURAS (*Wittkugel*, *in mus. Staudinger*).



MONARDA, gen. nov. (to follow the genus *Dolba*, I. p. 22).

Head rather small; palpi short; antennæ stout, nearly two-thirds the length of the primaries, very deeply pectinated; thorax very robust, thickly clothed with long hairs; abdomen extending considerably beyond the wings; legs rather slender. Primaries narrow, the costal and inner margins straight, the apex rounded, the outer margin curved to the anal angle; secondaries rather long and broad, the costal and inner margins straight, the apex rounded; venation very similar to that of the genus *Apocalypsis*, Butler, to which *Monarda* is allied.

Type *Monarda oryx*, Druce.

1. *Monarda oryx*, sp. n. (Tab. LXVIII. fig. 6.)

Primaries dark blackish-brown, thickly irrorated with greyish-white and reddish scales, the veins all dull black, the base and inner margin thickly clothed with long reddish hairs, the fringe dark brown; secondaries grey, crossed about the middle from the costal margin to the anal angle by a black band, the outer margin from the apex to the anal angle broadly bordered with blackish-brown, the inner margin clothed with long blackish-brown hairs; the underside blackish-brown, with an indistinct central black band crossing both wings: head, sides of the thorax, and abdomen black, the latter with the segments edged with grey, the thorax and base of the abdomen thickly clothed with long reddish-brown hairs; antennæ pale yellowish-brown. Expanse  $3\frac{1}{4}$  inches.

*Hab.* MEXICO, Jalisco (*coll. Schaus*).

This species is quite unlike any other known to me.

## DILUDIA (I. p. 22).

*Diludia sesquiplex* (I. p. 22).

To the locality given, add:—GUATEMALA, Coban (*Conradt*); NICARAGUA, Matagalpa (*Richardson*).

The specimens from Matagalpa are much darker than the one from Coban.

*Diludia corallina* (I. p. 22).

*Diludia lanuginosa*, H. Edwards, Ent. Americana, iii. p. 89 (1887) <sup>1</sup>.

To the localities given, add:—MEXICO, Jalapa, Vera Cruz (*Schaus* <sup>1</sup>); COSTA RICA, Candelaria Mts. (*Underwood*).

*Diludia lichenea* (I. p. 23).

To the localities given, add:—MEXICO, Orizaba (*Boucard*, in *mus. D.*), Jalapa (*Schaus*); PANAMA, Chiriqui (*Trötsch*, in *mus. Staudinger*).

4. *Diludia brevimargo*. (Tab. LXVIII. fig. 1, ♂.)

*Diludia brevimargo*, Butl. P. Z. S. 1875, p. 12 <sup>1</sup>; Trans. Z. S. ix. p. 613 <sup>2</sup>.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*), Jalapa (*M. Trujillo*), Paso de San Juan in Vera Cruz (*Schaus*), Atoyac in Vera Cruz (*Schumann*).—BRAZIL <sup>1 2</sup>.

This species is very closely allied to *D. florestan* (Cramer). We figure a male in very fine condition from Mr. Schaus's collection. Dr. Butler described the female.

### 5. *Diludia collaris*.

*Macrosila collaris*, Walk. Cat. viii. p. 201 (1856) <sup>1</sup>.

*Diludia collaris*, H. Edwards, Papilio, iv. p. 12 (1884) <sup>2</sup>.

*Hab.* MEXICO, Jalapa, Vera Cruz (*Schaus* <sup>2</sup>).—ANTILLES, Jamaica <sup>1</sup>, San Domingo <sup>1</sup>.

Dr. Butler (Trans. Zool. Soc. ix. p. 612) included *D. collaris* under *D. brontes* (Drury), but Mr. H. Edwards states <sup>2</sup> that the specimens taken by Mr. Schaus in Mexico prove it to be distinct.

### 6. *Diludia albiplaga*.

*Macrosila albiplaga*, Walk. Cat. viii. p. 202 <sup>1</sup>.

*Sphinx albiplaga*, Boisd. Sp. gén. des Léop. i. p. 84 <sup>2</sup>.

*Diludia albiplaga*, Grote & Robinson, Trans. Am. Ent. Soc. ii. p. 76 <sup>3</sup>; Butl. Trans. Z. S. ix. p. 614 <sup>4</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*).—BRAZIL <sup>2</sup>, Rio Janeiro <sup>1 4</sup>.

## HYLOICUS (to follow the genus *Diludia*, I. p. 23).

*Hyloicus*, Hübner, Verz. bek. Sehmett. p. 138 (1816).

### 1. *Hyloicus haterius*. (Tab. LXV. fig. 5.)

*Hyloicus haterius*, Druce, Ann. & Mag. Nat. Hist. (6) ii. p. 239 (1888) <sup>1</sup>.

Primaries pale grey, streaked with brown lines, which are very indistinct along the inner margin, an indistinct row of black dots along the outer margin from the apex to the anal angle; secondaries uniform dark brown, the fringe greyish; the underside dark brown, paler at the base of the secondaries: head, thorax, and abdomen greyish-brown; a central black line extends from the base of the abdomen to the anus; antennæ and legs greyish-brown. Expanse 2 inches.

*Hab.* MEXICO, Yucatan (*mus. Staudinger* <sup>1</sup>), Temax in North Yucatan (*Gaumer*).

This small species closely resembles *H. juniperi*, Boisd., from South and East Africa. The type is in Dr. Staudinger's collection.

## SPHINX (I. p. 23).

### *Sphinx lugens* (I. p. 23).

To the localities given, add:—MEXICO, Milpas in Durango 5900 feet (*Forrer*), Jalapa (*Schaus, M. Trujillo*); GUATEMALA, in the city (*Rodriguez*).

Mr. Schaus has published (Ent. News, 1895, p. 143) some remarks on the synonymy of this species.

### *Sphinx justiciæ* (I. p. 23).

To the localities given, add:—MEXICO, Jalapa (*Schaus, Höge, M. Trujillo*), Coatepec (*Brooks*); GUATEMALA, in the city (*Rodriguez*); NICARAGUA, Matagalpa (*Richardson*); COSTA RICA (*Van Patten*), Candelaria Mts. (*Underwood*).



♂ (A). **Sphinx andromedæ.**

*Sphinx andromedæ*, Boisd. Lép. Guat. p. 74 (1870)<sup>1</sup>; Sp. gén. des Lép. i. p. 89 (1874)<sup>2</sup>; Schaus, Ent. News, 1895, p. 143<sup>2</sup>.

*Sphinx separatus*, Neum. Ent. Americana, i. p. 93 (1885)<sup>4</sup>.

*Hab.* NORTH AMERICA, New Mexico<sup>4</sup>.—MEXICO (*Schaus*<sup>3</sup>), Oaxaca<sup>1 2</sup>; HONDURAS<sup>1 2</sup>.

♂ (B). **Sphinx perelegans.** (Tab. LXVII. fig. 3.)

*Sphinx perelegans*, H. Edwards, Proc. Calif. Acad. Sci. v. p. 109 (Jan. 1874)<sup>1</sup>.

*Lintneria* (?) *perelegans*, Butl. Trans. Z. S. ix. p. 621<sup>2</sup>.

*Hab.* NORTH AMERICA, California, Santa Clara county<sup>1 2</sup>.—MEXICO, near Durango city (*Becker*).

A very distinct species. Our specimens were named by Mr. Edwards.

**Sphinx lanceolata** (I. p. 23).

To the localities given, add :—MEXICO, Jalapa (*Schaus*, *M. Trujillo*), Orizaba (*Flohr*).

## CERATOMIA (I. p. 24).

**Ceratomia amyntor** (I. p. 24).

To the locality MEXICO, add :—Orizaba (*Boucard*, *in mus. D.*).

ACENTROCNAME (to precede the genus *Castnia*, I. p. 24).

*Ægiale*, Felder, Wien. ent. Monatschr. iv. p. 110 (1860) (nec Latreille).

*Acentrocname*, Scudder, Proc. Amer. Acad. x. p. 100 (1875).

1. **Acentrocname hesperiaris.** (Tab. LXIX. fig. 6.)

*Castnia hesperiaris*, Walk. Cat. vii. p. 1583 (1856)<sup>1</sup>.

*Acentrocname hesperiaris*, Kirby, Cat. Lep. Het. i. p. 895<sup>2</sup>.

*Ægiale kollari*, Feld. Wien. ent. Monatschr. iv. p. 111, t. 2. fig. 3 (♀) (1860)<sup>3</sup>.

*Teria agavis*, Blasquez, La Naturaleza, i. p. 282, tab. figg. 1–5 (Aug. 1870)<sup>4</sup> (*cf.* Boisd. Petites Nouv. Ent. 1871, p. 163)\*.

*Hab.* MEXICO<sup>1 2 3 4</sup> (*colls. Kaden & Saunders*), near Durango city (*Becker*).

A full account of the life-history of this species, with figures of the larva, pupa, and a female of the perfect insect, is given by Blasquez (*loc. cit.* pp. 282–284). The larva is destructive to the magney or *Agave*, and it is known to the Indians by the name of “meocuillin.” Blasquez appears to have observed it in the vicinity of Puebla.

MEGATHYMUS (to follow the genus *Acentrocname*).

*Megathymus*, Scudder, Rep. Peabody Acad. iv. p. 83 (1872).

1. **Megathymus indecisa.** (Tab. LXIX. figg. 1, ♂ ; 2, ♀.)

*Ægiale indecisa*, Butl. & Druce, Cist. Ent. i. p. 116 (1872)<sup>1</sup>.

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\* The citation given by Mr. Kirby in his ‘Catalogue of Diurnal Lepidoptera,’ p. 608 (1871), is incorrect.

*Hab.* COSTA RICA, Cartago (*Van Patten*<sup>1</sup>); PANAMA, Chiriqui (*mus. D.*).

In 1872 Dr. Butler and I suggested that *Ægiale* was more nearly allied to the Castniidæ than to the Hesperiidæ. The material in our possession is still not large enough to enable us to make many points of structure clear by dissection.

2. **Megathymus neumoegei.** (Tab. LXIX. figg. 3, ♂; 4, ♀.)

*Megathymus neumoegei*, W. H. Edwards, *Papilio*, ii. p. 27 (1882)<sup>1</sup>.

*Hab.* NORTH AMERICA, Southern Arizona<sup>1</sup>.—MEXICO (*ex coll. Saunders*), Northern Sonora (*Morrison*).

There is also a male of this species from Mexico in Dr. Staudinger's collection.

3. **Megathymus smithi**, sp. n. (Tab. LXIX. fig. 5, ♂.)

*Male.* Primaries and secondaries dark brown; the primaries with a small spot at the end of the cell, three spots beyond it on the costal margin near the apex, and a submarginal row of small spots extending almost to the anal angle, the cell pale yellow, the fringe alternately pale yellow and brown; the secondaries with a submarginal row of rather indistinct yellow spots extending from near the apex to the anal angle, the fringe white; the underside of the primaries brown, with the spots as above, but larger and whiter, that of the secondaries brown, broadly bordered with grey from the base to the anal angle, and with two zigzag white lines crossing from the costal to the inner margin: head, thorax, and abdomen dark brown, the underside of the palpi and part of that of the thorax white; antennæ brown above, white beneath, the tip black. Expanse 2½ inches.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

One specimen, captured in September 1888. This species is allied to *M. indecisis*, Butl. & Druce.

CASTNIA (I. p. 24).

**Castnia atymnius** (I. p. 25).

To the localities given, add:—GUATEMALA, Volcan de Santa Maria, Pacific slope (*Richardson*); NICARAGUA, Matagalpa (*Richardson*); PANAMA, Taboga I. (*Mathew, in mus. D.*).

The specimens from Taboga Island are very small, but do not differ in any other respect.

**Castnia inca** (I. p. 26).

To the localities given, add:—MEXICO, Tampico in Tamaulipas (*Richardson*), Atoyac in Vera Cruz (*Schumann*).

9 (A). **Castnia staudingeri.** (Tab. LXVIII. fig. 8.)

*Castnia staudingeri*, Druce, *Ann. & Mag. Nat. Hist.* (6) xviii. p. 28 (1896)<sup>1</sup>.

Primaries reddish-brown, shading to yellowish-brown in the middle; a large brown spot at the end of the cell and three smaller brown spots near the anal angle; two round hyaline white dots near the apex; the fringe yellowish-brown; secondaries deep orange, shading to pale yellow in the middle and on the inner margin, the base black, thickly clothed with dark brown hairs; a wide band of deep black submarginal



spots extends from the anal angle almost to the apex, the spots becoming smaller near the apex; the outer margin edged with blackish-brown, more broadly so near the anal angle; the fringe yellow; the underside of the primaries orange, that of the secondaries pale whitish-yellow, with the markings as above, but quite indistinct: head, antennæ, and thorax reddish-brown; abdomen blackish-brown at the base, then to the anus thickly irrorated with yellow scales, the anus orange; the underside of the thorax and abdomen yellowish-white; the legs dark reddish-brown above, whitish beneath. Expanse 4 inches.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

#### SPHECIA (I. p. 29).

##### **Sphecia championi** (I. p. 29).

To the locality given, add:—MEXICO, Coatepec (*Schaus*).

Mr. Schaus's specimen is considerably larger than the types.

#### ÆGERIA (I. p. 29).

##### **Ægeria tryphoniformis** (I. p. 29).

To the localities given, add:—MEXICO, Tierra Colorada in Guerrero 2000 feet, Teapa in Tabasco (*H. H. Smith*).

##### 1 (A). **Ægeria mardia**. (Tab. LXIX. fig. 7.)

*Ægeria mardia*, Druce, Ann. & Mag. Nat. Hist. (6) ix. p. 275 (1892) <sup>1</sup>.

Allied to *Æ. tryphoniformis*, Walk., but differing as follows:—The primaries and secondaries are quite hyaline, with the streak at the end of the cell and the spot at the apex bright orange-red, instead of pale yellowish-brown: the head, thorax, and abdomen black, instead of yellow, as in *Æ. tryphoniformis*; the anal tuft large and bright orange-red; antennæ black; palpi orange. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, near Durango city (*Becker* <sup>1</sup>).

##### 2 (A). **Ægeria pallene**. (Tab. LXIX. fig. 8.)

*Ægeria pallene*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 80 (1889) <sup>1</sup>.

Primaries and secondaries hyaline, with all the veins black; the apex and outer margin of the former broadly bordered with golden-brown: head, thorax, and abdomen black above, yellowish-brown beneath; the collar, the base of the thorax, and the last segment of the abdomen banded with orange-yellow; the legs and antennæ black, the latter banded with white near the tips. Expanse  $\frac{1}{2}$  inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith* <sup>1</sup>).

Mr. Smith met with this insect in March and April 1888; it is allied to *Æ. tryphoniformis*, Walk.

##### **Ægeria sellustiformis** (I. p. 30).

To the locality given, add:—MEXICO, Coatepec (*Brooks*); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

The abdomen is banded with yellow and the anal tuft is brownish at the tip.

4 (A). *Ægeria hippolyte*. (Tab. LXIX. fig. 9.)

*Ægeria hippolyte*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 80 (1889) <sup>1</sup>.

Primaries yellowish-hyaline, the veins black, the apex and outer margin edged with golden-brown; secondaries hyaline; the fringe of both wings black: head, thorax, and abdomen black, the base of the thorax and the anus yellow; legs black, banded with yellow; antennæ black. Expanse 1 inch.

*Hab.* MEXICO, Cuernavaca in Morelos (*H. H. Smith* <sup>1</sup>).

One specimen, taken in June 1888.

*Ægeria deipyla* (I. p. 30).

To the locality given, add:—MEXICO, Atoyac in Vera Cruz (*H. H. Smith*).

*Ægeria producta* (I. p. 30).

To the localities given, add:—MEXICO, Rincon in Guerrero 2800 feet (*H. H. Smith*).

6 (A). *Ægeria halmyris*. (Tab. LXIX. fig. 13.)

*Ægeria halmyris*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 79 (1889) <sup>1</sup>.

Primaries black, with the end of the cell and a round spot beyond it hyaline; secondaries whitish-hyaline, with the fringe black: head, thorax, and abdomen black, the base of the abdomen slightly yellowish; antennæ black, with a wide white ring near the tip; legs greyish-black. Expanse 1 inch.

*Hab.* MEXICO, Rincon in Guerrero 2800 feet (*H. H. Smith* <sup>1</sup>).

One specimen, captured in September 1888. It is most nearly allied to *Æ. producta*, Walk., but very distinct.

6 (B). *Ægeria hipsides*. (Tab. LXIX. fig. 14.)

*Ægeria hipsides*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 80 (1889) <sup>1</sup>.

Primaries dusky-black, with the cell and a round spot at the end of it semihyaline; secondaries hyaline, with the veins and fringe black: head, thorax, and abdomen glossy black, the underside of the thorax white; antennæ and legs black. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith* <sup>1</sup>).

A very distinct species, of which one specimen was captured in August 1888.

6 (C). *Ægeria hela*. (Tab. LXIX. fig. 15.)

*Ægeria hela*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 79 (1889) <sup>1</sup>.

Primaries uniformly black, with a minute hyaline dot at the end of the cell; secondaries hyaline, with the outer margin broadly bordered with black; the fringe black: head and antennæ black, the latter with a narrow white ring near the tip; the front of the thorax and the tegulæ yellowish-brown; the rest of the thorax, the abdomen, and legs dull black, the underside of the thorax yellowish. Expanse  $\frac{6}{10}$  inch.

*Hab.* MEXICO, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith* <sup>1</sup>).

This species is allied to *Æ. senta*, Druce, but it is a much smaller and darker insect. We figure the specimen from Atoyac.



7 (A). *Ægeria helena*. (Tab. LXIX. fig. 10.)*Ægeria helena*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 80 (1889) <sup>1</sup>.

Primaries and secondaries clear hyaline, with their costal and outer margins brownish-black: head, thorax, and abdomen purplish-black above, orange-yellow beneath, the anus bright orange; the antennæ black from the base to the middle, then orange, excepting the point, which is black; legs orange-yellow. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith* <sup>1</sup>).One specimen captured in August 1888; it is allied to *Æ. guatemalena*, Druce.7 (B). *Ægeria armasata*. (Tab. LXIX. fig. 11.)*Ægeria armasata*, Druce, Ann. & Mag. Nat. Hist. (6) ix. p. 275 (1892) <sup>1</sup>.

Primaries and secondaries hyaline, with a slightly yellowish tinge, the costal, outer, and inner margins of the primaries edged with yellowish-brown, the veins of both wings yellowish-brown, those of the secondaries being the darkest; the fringe of the secondaries dark brown; the underside of both wings light yellow: palpi and front of the head yellow; antennæ dark brown, yellowish at the base; thorax and abdomen blackish-brown, the latter with a yellow line at the base, the anal tuft yellowish-brown; legs orange, banded with black. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, near Durango city (*Becker* <sup>1</sup>).7 (C). *Ægeria hermione*. (Tab. LXIX. fig. 12.)*Ægeria hermione*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 79 (1889) <sup>1</sup>.

Primaries hyaline, slightly shaded with yellow on the inner margin, the costal and outer margins edged with yellowish-brown; secondaries hyaline; the fringe of both wings brown: thorax and abdomen black, the latter banded with yellow, the collar and tegulæ also yellow; antennæ black, with a wide yellowish-brown ring near the tip; legs yellow, with black bands. Expanse 1 inch.

*Hab.* MEXICO, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith* <sup>1</sup>).

Mr. Smith captured specimens of this insect in February and May 1888.

*Ægeria guatemalena* (I. p. 31).To the locality given, add :—MEXICO, Jalapa (*coll. Schaus*).*Ægeria proserpina* (I. p. 31).

To the locality given, add :—MEXICO, Teapa in Tabasco (*H. H. Smith*); PANAMA, Taboga I. (*J. J. Walker*).

13 (A). *Ægeria* (?) *hades*. (Tab. LXIX. fig. 16.)*Ægeria hades*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 78 (1889) <sup>1</sup>.

Primaries and secondaries uniformly glossy bluish-black, with the veins and outer margins dull black; the underside as above: head, thorax, and abdomen bluish-black; the underside of the head and front part of the thorax white, the legs black. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith* <sup>1</sup>).

One specimen, captured in February 1888.

15. *Ægeria animosa*.

*Pyrrhotænia animosa*, H. Edwards, Papilio, iii. p. 156 (1883)<sup>1</sup>.

*Hab.* NORTH AMERICA, Arizona<sup>1</sup>.—MEXICO, Northern Sonora (*Morrison*).

16. *Ægeria ovinia*, sp. n. (Tab. LXVIII. fig. 9.)

Primaries glossy blue-black, with a hyaline streak along the inner margin extending from the base to the anal angle; secondaries hyaline-white, the veins black; the fringe of both wings blackish-brown: head, palpi, and antennæ black, the thorax and abdomen glossy blue-black, the fourth abdominal segment broadly bordered with pale yellow; the anal tuft large, black, with a few greyish hairs at the sides; the underside of the abdomen white; legs black, banded with grey. Expanse  $1\frac{4}{5}$  inch.

*Hab.* MEXICO, Coatepec (*coll. Schaus*).

One specimen.

BEMBECIA (to follow the genus *Ægeria*, I. p. 32).

*Bembecia*, Hübner, Verz. bek. Schmett. p. 128 (1816).

1. *Bembecia* (?) *eucheripennis*.

*Bembecia eucheripennis*, Boisd. Sp. gén. des Lép. i. p. 384 (1874)<sup>1</sup>.

*Hab.* MEXICO<sup>1</sup>.

Described from an imperfect example. Its location in this genus is doubtful.

MELITTIA (I. p. 32).

*Melittia satyriniformis* (I. p. 32).

*Melittia ceto*, Westw., anteà, i. p. 32.

To the localities given, add:—MEXICO, near Durango city (*Becker*), Atoyac in Vera Cruz, Jalisco (*Schumann*), Coatepec (*Brooks*), Acapulco, Amula and Chilpancingo in Guerrero (*H. H. Smith*).

*M. ceto*, Westw., is not separable from this species.

*Melittia butleri* (I. p. 32).

To the Mexican locality given, add:—Omiteme in Guerrero 8000 feet (*H. H. Smith*).

4. *Melittia smithi*. (Tab. LXIX. fig. 17.)

*Melittia smithi*, Ann. & Mag. Nat. Hist. (6) iv. p. 81 (1889)<sup>1</sup>.

Primaries black, with a narrow hyaline streak extending from the base to the end of the cell, beyond which is an oval hyaline spot, the fringe greyish; secondaries hyaline, with the veins and fringe black; the base of both wings clothed with long yellowish hairs: head, thorax, and abdomen brownish-black, each segment of the latter edged with yellow; the underside of the thorax and abdomen yellowish-brown; antennæ black; legs yellow, excepting the hind ones, which are thickly clothed with black hairs, with a few yellow hairs near the body. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Rio Papagaio 1200 feet, and Dos Arroyos 1000 feet, both in Guerrero (*H. H. Smith*<sup>1</sup>).

Specimens of this insect were taken by Mr. Smith in September and October 1888; it is allied to *M. butleri*, Druce, but it is a smaller and darker insect.



5. *Melittia beckeri*. (Tab. LXIX. fig. 18.)

*Melittia beckeri*, Druce, Ann. & Mag. Nat. Hist. (6) ix. p. 276 (1892) <sup>1</sup>.

Primaries greenish-brown, very thickly irrorated with pale green scales, the fringe greenish-brown; secondaries hyaline, with the veins bright orange-red, the marginal line black, the fringe dark brown; the underside of the primaries pale yellow, greenish-brown at the apex: head and thorax greenish-brown; the palpi yellow; the antennæ black; the abdomen blackish-brown above, banded with yellow beneath, the anal tuft yellow; the hind legs long and very thickly clothed with hair, that nearest the base on the outer side being pale yellow, that on the tibia and tarsus black on the inner side, bright orange on the outer side, almost white close to the ungues. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, near Durango city (*Becker* <sup>1</sup>).

This fine species is allied to *M. satyriniformis*, Hübn., from which it may be at once distinguished by the orange-red veins of the secondaries and the much paler green primaries.

## TIRISTA (I. p. 32).

2. *Tirista praxila*, sp. n. (Tab. LXVIII. fig. 7.)

Primaries and secondaries semihyaline yellowish-brown; the primaries with the costal margin and the middle of the wing darker brown; the secondaries with the costal margin, apex, and outer margin bordered with yellowish-brown; the fringes of both wings pale yellowish-brown: antennæ, palpi, and legs yellowish-brown, the head, thorax, and abdomen darker brown, the anal tuft yellow. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Jalapa (*coll. Schaus*).

One specimen.

## SINCARA (I. p. 33).

*Sincara lytæa* (I. p. 33).

To the locality given, add:—MEXICO, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*).

4. *Sincara manilia*. (Tab. LXIX. fig. 19.)

*Sincara manilia*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 82 (1889) <sup>1</sup>.

Primaries and secondaries yellowish-hyaline, the costal margin of the primaries and the fringe of both wings black: head, thorax, and abdomen black, the last four segments of the latter edged with bright yellow, the anus yellow; antennæ and legs black, the palpi yellowish in front. Expanse 1 inch.

*Hab.* MEXICO, Sierra de las Aguas Escondidas 7000 feet and Omilteme 8000 feet, both in Guerrero (*H. H. Smith* <sup>1</sup>).

Found in July 1888.

5. *Sincara mæonia*. (Tab. LXIX. fig. 20.)

*Sincara mæonia*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 81 (1889) <sup>1</sup>.

Primaries and secondaries hyaline, the costal and outer margins of the primaries narrowly edged with black, the fringe of both wings black, the inner margin of the primaries with a yellowish tinge extending from the base to near the anal angle: head, thorax, and abdomen black; the front of the palpi bright yellow; the tegulæ edged with yellow; the antennæ and legs black. Expanse 1 inch.

*Hab.* MEXICO, Omilteme in Guerrero 8000 feet (*H. H. Smith* <sup>1</sup>).

Allied to *S. lytæa*, Druce.

6. **Sincara manoba.** (Tab. LXIX. fig. 21.)

*Sincara manoba*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 82 (1889) <sup>1</sup>.

Primaries brownish-black, darker along the costal margin; secondaries yellowish-hyaline, with the fringe black: head, thorax, and abdomen dull black; antennæ black. Expanse 1 inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith* <sup>1</sup>).

One specimen.

7. **Sincara** — ?

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*).

One worn specimen.

TARSOPODA (to follow the genus *Sincara*, I. p. 33).

*Tarsopoda*, Butler, Ann. & Mag. Nat. Hist. (4) xiv. p. 410 (1874).

1. **Tarsopoda marcia.** (Tab. LXIX. fig. 22.)

*Tarsopoda marcia*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 81 (1889) <sup>1</sup>.

Primaries black; a spot at the end of the cell and a central streak reaching the base hyaline; secondaries hyaline, with the outer margin and the veins black: head, thorax, and abdomen black, the anus yellow, the abdomen banded with metallic gold, the collar yellow; antennæ black; the legs black, banded with yellow. Expanse  $\frac{1}{16}$  inch.

*Hab.* MEXICO, Dos Arroyos in Guerrero 1000 feet (*H. H. Smith* <sup>1</sup>).

Two specimens, found in September 1888.

ALYPIOIDES.

*Alypioides*, Grote, Trans. Kansas Acad. Sci. viii. p. 46 (1883).

*Pseudalypia*, antea, i. p. 34 (nec H. Edwards).

1. **Alypioides crescens.**

*Pseudalypia crescens*, antea, i. p. 34 <sup>1</sup>.

*Alypioides flavilinguis*, Grote, Trans. Kansas Acad. Sci. viii. p. 46 <sup>2</sup>.

*Alypioides bimaculata*, var. *dugesii*, Cocker. Ent. News, vi. p. 201 (1895) <sup>3</sup>.

To the localities given, add:—NORTH AMERICA, New Mexico <sup>2</sup>.—MEXICO, Durango city (*Becker*), Guanajuato (*Dugès* <sup>3</sup>), Oaxaca (*coll. Schaus*).

The var. *dugesii*, Cocker., from Guanajuato, is without doubt a form of *A. crescens*.

2. **Alypioides bimaculata.**

*Pseudalypia bimaculata*, antea, i. p. 35.

3. **Alypioides walkeri.** (Tab. LXX. fig. 1.)

*Pseudalypia walkeri*, Druce, Ann. & Mag. Nat. Hist. (6) ii. p. 239 (1888) <sup>1</sup>.

*Pseudalypia stuartii*, Schaus, Ent. Amer. v. p. 87 (1889) <sup>2</sup>.

Primaries and secondaries on the upper and under sides uniformly dull black; the primaries crossed just beyond the cell on the costal margin by a narrow white band that extends to the anal angle, where it is



slightly hooked; a narrow metallic line extends from the base along the costal margin, but not beyond the white band, one at the end of the cell, and several between it and the inner margin: head, thorax, and abdomen glossy black, as also the legs and antennæ; the tegulæ orange-red. Expanse 2 inches.

*Hab.* MEXICO, Acapulco (*J. J. Walker*<sup>1</sup>), Paso de San Juan in Vera Cruz (*coll. Schaus*<sup>2</sup>); GUATEMALA, Volcan de Santa Maria, Pacific Slope (*Richardson*).

This species is allied to *A. (Agarista) radians*, Feld., from which it may be at once distinguished by the white band on the primaries.

#### 4. *Alypioides radians*.

*Agarista radians*, Feld. Reise der Novara, Lep. t. 107. fig. 9<sup>1</sup>.

*Eusemia radians*, Boisd. Rev. et Mag. Zool. 1874, p. 105<sup>2</sup>.

*Hab.* MEXICO<sup>1</sup>, Cuernavaca in Morelos (*H. H. Smith*).

The locality "Moluques" mentioned by Boisduval<sup>2</sup> is clearly an error.

#### ALYPIA (I. p. 35).

##### 1. *Alypia disparata*. (Tab. LXX. fig. 2, ♂.)

*Alypia octomaculata*, anteà, i. p. 35 (nec Fabr.)<sup>1</sup>.

*Alypia disparata*, H. Edwards, Papilio, iv. p. 13<sup>2</sup>.

To the Mexican localities given, add:—Atoyac in Vera Cruz (*H. H. Smith, Schumann*), State of Vera Cruz (*Schaus*<sup>2</sup>).

The additional specimens received show that the Mexican insect is distinct from the North-American *A. octomaculata* (Fabr.). The females of the two species are very similar; but, as pointed out by Edwards<sup>2</sup>, the males are very different. It is probable that *A. disparata* will have to be separated eventually from the genus *Alypia*.

#### PHASIS (I. p. 36).

##### *Phasis tribuna* (I. p. 36).

*Eusemia schausii*, H. Edwards, Ent. Amer. iii. p. 90 (1887)<sup>1</sup>.

To the localities given, add:—MEXICO, State of Vera Cruz (*Schaus*<sup>1</sup>).

The late Henry Edwards, upon seeing my specimens of *P. tribuna*, informed me that his *Eusemia schausii* belonged to the same species.

#### DARCETA (to follow the genus *Phasis*, I. p. 36).

*Darceta*, Herrich-Schäffer, Samml. aussereur. Schmett. pp. 13, 71, 84 (1850–1858); Walker, Cat. xxxi. p. 139 (1864).

This genus is allied to *Diamuna*\*, but differs from it in having the wings considerably shorter and the apex more pointed.

\* The genera *Diamuna* and *Clitis*, Walk. (anteà, i. pp. 333–335), were incorrectly included by me in the family Noctuidæ: they really belong to the Agaristidæ, and should follow the genus *Hecatesia* in Vol. I. p. 36.

1. **Darceta hesperina.**

*Darceta hesperina*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 13, 71, 84, figg. 524-526<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch*, in *mus. Staudinger*).—BRAZIL<sup>1</sup>.

LEONIDES (to follow the genus *Darceta*, in the family Agaristidæ).

*Leiosoma*, Felder, Reise der Novara, Lep. t. 99, fig. 23, Erkl. der Taf. 75-107, p. 6 (nomen præocc.).

The name *Leiosoma* had been used five times in zoology before Felder adopted it: a new name is therefore substituted.

1. **Leonides serpentinus.**

*Leiosoma serpentinum*, Feld. loc. cit. (♂)<sup>1</sup>.

*Leisoma juanita*, Schaus, Ent. Amer. v. p. 87 (♀) (1889)<sup>2</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*Schaus*<sup>2</sup>).—COLOMBIA, Bogota<sup>1</sup>.

I have seen three males of this insect: two in my own collection and Felder's type. I have not the slightest doubt that the insect described by Mr. Schaus is the female of the same species.

EUTHISANOTIA (to follow the genus *Leonides*, in the family Agaristidæ).

*Euthisanotia*, Hübner, Zutr. Samml. exot. Schmett. iii. p. 12 (1825).

*Eudryas*, Boisduval, Sp. Gén. des Léop. i. t. 14. fig. 9 (1836); Rev. et Mag. Zool. 1874, p. 57;

Walker, Cat. ix. p. 143 (1856); Packard, Proc. Ess. Inst. iv. p. 24 (1864); Stretch, Zyg. & Bomb. N. Amer. p. 145 (1872).

1. **Euthisanotia sanctæ-johannis.** (Tab. LXX. fig. 8.)

*Eudryas stæ-johannis*, Walk. Cat. ix. p. 144 (1856)<sup>1</sup>.

*Hab.* ? NORTH AMERICA<sup>1</sup>.—MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Boucard*, in *mus. D.*).

The specimen described by Walker was found on the door of a church at "Horsleydown."

2. **Euthisanotia cosyra**, sp. n. (Tab. LXX. fig. 4, ♀.)

*Female.* Primaries dull greyish-brown, paler at the base and on the outer margin, with a wide snow-white band extending from the base down the middle of the wing to the end of the cell and then curving upwards to the costal margin close to the anal angle, where it becomes very much narrower, the marginal line edged with black, the fringe brown; secondaries deep chrome-yellow, broadly bordered from the apex to the anal angle with black, a fine submarginal line chrome-yellow, the marginal line black, the fringe greyish-white; the underside of both wings chrome-yellow, broadly bordered with black, the primaries with a round black spot in the cell and an elongated black mark at the end of the cell, the outer margins of both wings yellowish-white: head, palpi, thorax, and legs greyish-brown, the antennæ black, the abdomen chrome-yellow. Expanse 1¾ inch.

*Hab.* WESTERN MEXICO (*M. Trujillo*, in coll. *Schaus*).

One specimen, very distinct from any insect known to me.



LAQUEA (to follow the genus *Euthisanotia*, in the family Agaristidæ).

*Laquea*, Jordan, Novit. Zool. iii. p. 41 (March 1896).

Dr. Jordan's description of this genus was made from Jamaican examples, which, in my opinion, are specifically distinct from the Mexican *Euthisanotia argentata*, Druce.

1. ***Laquea argentata***. (Tab. LXX. fig. 5.)

*Euthisanotia argentata*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 352 (1894)<sup>1</sup>.

*Laquea argentata*, Jord. Novit. Zool. iii. p. 41 (part.)<sup>2</sup>.

Primaries pale fawn-colour, greyish on the outer margin; a wide silvery-white band extends from the base to the apex, crossed by a fawn-coloured line at the end of the cell; the fringe greyish-brown; secondaries yellow, broadly bordered from the apex to the anal angle with reddish-fawn-colour, the marginal line black, the fringe white: head and thorax greyish-fawn-colour; abdomen pale yellow; antennæ and legs grey. Expanse 2 inches.

*Hab.* MEXICO<sup>2</sup>, Orizaba (*Boucard, in mus. D.*<sup>1</sup>), Jalapa (*coll. Schaus*); GUATEMALA, in the city (*Rodriguez*<sup>1</sup>).—ANTILLES, San Domingo.

There is a worn example of this species from San Domingo in the National Museum, with a label in Walker's handwriting "*Copusa argentata*," but I cannot find that it has been described. The Orizaba specimen is figured.

COPIDRYAS (to follow the genus *Laquea*, in the family Agaristidæ).

*Copidryas*, Grote, Canad. Ent. viii. pp. 99, 100 (1876).

1. ***Copidryas sabulosa***.

*Agarista sabulosa*, Feld. Reise der Novara, Lep. t. 107. fig. 11 (1874)<sup>1</sup>.

*Eusemia* (?) *sabulosa*, Boisd. Rev. et Mag. de Zool. 1874, p. 106<sup>2</sup>.

*Hab.* NORTH AMERICA, San Francisco, California<sup>1</sup>.—MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*); GUATEMALA, in the city (*Rodriguez*).

This species varies considerably in the colour of the primaries; it is common at Jalapa.

PROCRIS (I. p. 37).

5. ***Procris landia***, sp. n. (Tab. LXX. fig. 6.)

Primaries and secondaries semihyaline brownish-black, the veins and the fringe slightly darker: head and antennæ black, the collar, thorax, and abdomen brownish-yellow, the legs black. Expanse  $1\frac{1}{10}$  inch.

*Hab.* MEXICO, Northern Sonora (*Morrison*).

One specimen. Allied to *P. thyesta*, Druce.

6. ***Procris barnea***, sp. n. (Tab. LXX. fig. 3.)

Primaries and secondaries semihyaline smoky-black, the veins, costal margin, and fringe slightly darker: head, antennæ, thorax, abdomen, and legs deep black. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Northern Sonora (*Morrison*), Durango city (*Becker*).

Very similar to *P. thyesta*, from which it may be at once distinguished by the thorax being black instead of yellow.

BIOL. CENTR.-AMER., Heter., Vol. II., December 1896.

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## TRIPROCRIS (I. p. 37).

2. *Triprocris basalis*.

*Triprocris basalis*, H. Edwards, Ent. Amer. iii. p. 91 (1887) <sup>1</sup>.

*Hab.* MEXICO, State of Vera Cruz (*Schaus* <sup>1</sup>).

## SERYDA (I. p. 38).

*Seryda megalops* (I. p. 38).

To the localities given, add:—MEXICO, in the city (*coll. Schaus*).

## URODUS (I. p. 39).

2 (A). *Urodus dyraspes*, sp. n. (Tab. LXX. fig. 7.)

Primaries semihyaline sooty-black, the veins slightly darker; secondaries whitish-hyaline, the veins and fringe black: head, antennæ, thorax, abdomen, and legs black. Expanse  $\frac{7}{10}$  inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

One specimen.

## HARRISINA (I. p. 40).

1. *Harrisina cirama*, sp. n. (Tab. LXX. fig. 12.)

*Harrisina americana*, *anteh*, i. p. 40 (nec Boisd.).

Primaries and secondaries brownish-black, the veins on the former deep black: head, antennæ, thorax, abdomen, and legs deep black. Expanse 1 inch.

*Hab.* GUATEMALA, San Gerónimo and San Juan in Vera Paz (*Champion*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

This insect proves, upon receipt of more specimens, to be distinct from the North American *H. americana* (Boisd.).

1 (A). *Harrisina coracina*.

*Aglaope coracina*, Clem. Proc. Acad. Phil. 1860, p. 539 <sup>1</sup>.

*Hab.* NORTH AMERICA, Texas <sup>1</sup>.—MEXICO, Coatepec (*coll. Schaus*).

*Harrisina rümelii* (I. p. 40).

To the Mexican locality given, add:—State of Durango (*Forrer*).

4. *Harrisina charax*, sp. n. (Tab. LXX. fig. 9.)

Primaries deep black, appearing in some lights shot with very dark blue near the base; secondaries brownish-black: head and antennæ black, the collar bright carmine, the thorax and abdomen greenish-black, the tegulæ glossy blue-black, the legs black. Expanse 1 inch.

*Hab.* MEXICO, Dos Arroyos and Tierra Colorada in Guerrero (*H. H. Smith*).

Two specimens.

5. *Harrisina elongata*, sp. n. (Tab. LXX. fig. 10.)

Primaries and secondaries smoky-brown, on the underside shaded with blue: head and antennæ blue-black, the collar chrome-yellow, the thorax, abdomen, and legs black. Expanse  $1\frac{4}{10}$  inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

In this species the primaries are very long and narrow.



6. **Harrisina mexicana.** (Tab. LXX. fig. 11.)

*Harrisina mexicana*, Schaus, Ent. Amer. v. p. 87 (1889)<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*Schaus*<sup>1</sup>).

A small species allied to *H. cirama* and *H. guatemalena*, Druce. We figure the type from Mr. Schaus's collection.

ANATOLMIS (to follow the genus *Pyromorpha*, I. p. 41).

*Anatolmis*, Packard, Proc. Essex Inst. iv. p. 46 (1864); Stretch, Zygæn. & Bomb. N. Amer. p. 43 (1872).

1. **Anatolmis contermina.**

*Lycomorpha contermina*, H. Edwards, Papilio, iv. p. 13 (1884)<sup>1</sup>.

*Hab.* MEXICO, Coatepec, State of Vera Cruz (*Schaus*<sup>1</sup>).

## LYCOMORPHA (I. p. 41).

1 (A). **Lycomorpha rata.** (Tab. LXX. fig. 13.)

*Lycomorpha rata*, H. Edwards, Papilio, ii. p. 124 (1882)<sup>1</sup>.

*Hab.* NORTH AMERICA, Arizona<sup>1</sup>.—MEXICO, Northern Sonora (*Morrison*).

The specimens from Sonora are identical with those from Arizona in my own collection.

**Lycomorpha marginata** (I. p. 41). (Tab. LXX. fig. 14.)

To the Mexican locality given, add:—Jalapa (*F. D. G.*, *M. Trujillo*), Orizaba (*H. J. Elwes*).

The specimen from Jalapa is figured.

5. **Lycomorpha teos.** (Tab. LXX. fig. 15.)

*Lycomorpha teos*, Schaus, Ent. Amer. v. p. 88 (1889)<sup>1</sup>.

*Hab.* MEXICO, Barranca of Simalohuacan, State of Vera Cruz, 7000 feet<sup>1</sup>, and Jalapa (*coll. Schaus*).

We figure a specimen from Jalapa. This species is closely allied to *L. marginata*, Edwards.

6. **Lycomorpha notha.** (Tab. LXX. fig. 16.)

*Lycomorpha notha*, H. Edwards, Ent. Amer. i. p. 128 (1885)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*Schaus*<sup>1</sup>, *Höge*), Omilteme in Guerrero 8000 feet (*H. H. Smith*).

The specimen from Omilteme is blacker than those from Jalapa, and has less yellow at the base of the wings. An example from Jalapa is figured.

7. **Lycomorpha basirei**, sp. n. (Tab. LXX. fig. 18.)

Primaries and secondaries deep black, the primaries with the costal margin from the base nearly to the apex

edged with deep yellow, the secondaries with the costal margin also edged with yellow; the underside of both wings very much as above, but glossy blue-black: head, antennæ, thorax, and legs deep black, the abdomen glossy bluish-black. Expanse 1 inch.

*Hab.* MEXICO, Orizaba (*Basire, in coll. Schaus*).

One specimen.

**8. *Lycomorpha semifulva*, sp. n.** (Tab. LXX. fig. 19.)

Primaries deep black, broadly bordered with yellow along the costal margin from the base to the end of the cell; secondaries chrome-yellow, bordered with black from the apex to the anal angle; the fringe of both wings black; the underside very much as above: head, antennæ, thorax, abdomen, and legs deep black. Expanse 1 inch.

*Hab.* MEXICO, Orizaba (*coll. Schaus*).

Allied to *L. basirei*, from which it may be at once distinguished by the yellow secondaries.

**9. *Lycomorpha augusta*.** (Tab. LXX. fig. 17, ♂.)

*Lycomorpha augusta*, H. Edwards, Ent. Amer. iii. p. 91 (1887)<sup>1</sup>.

*Hab.* MEXICO, State of Vera Cruz (*Schaus*<sup>1</sup>), Omilteme in Guerrero 8000 feet (*H. H. Smith*).

We figure a male from Vera Cruz.

**10. *Lycomorpha regia*.** (Tab. LXX. fig. 20.)

*Lycomorpha regia*, Schaus, Ent. Amer. v. p. 88 (1889)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).

We figure a specimen from Mr. Schaus's collection.

AGYRTA (to follow the genus *Lycomorpha*, I. p. 41).

*Agyrta*, Hübner, Verz. bek. Schmett. p. 177 (1816).

*Dioptes*, group *Agyrta*, Walker, Cat. ii. p. 326 (1854).

**1. *Agyrta micilia*.**

*Phalæna micilia*, Cram. Pap. Exot. iii. p. 62, t. 228. fig. G<sup>1</sup>.

*Limacodes micilia*, Duncan, Nat. Libr. xxxvii., Exot. Moths, p. 179, t. 22. figg. 1, 2<sup>2</sup>; Butl. Cist. Ent. ii. p. 113<sup>3</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—SOUTH AMERICA<sup>3</sup>, Surinam<sup>1</sup>, Ecuador.

**2. *Agyrta æstiva*.**

*Agyrta æstiva*, Butl. Cist. Ent. ii. p. 113<sup>1</sup>.

*Hab.* HONDURAS (*Dyson*<sup>1</sup>).

SYNTOMEDIA (I. p. 42).

***Syntomedia melanthus*** (I. p. 42).

To the localities given, add :—MEXICO, Durango city (*Becker*), Guadalajara in Jalisco (*Goldsmith, in mus. D.*), Acapulco and Hacienda de la Imagen in Guerrero (*H. H. Smith*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Punta Arenas (*J. J. Walker*).



**Syntomedia epilais** (I. p. 43).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*), Corosal (*Roe, in mus. D.*).

**5. Syntomedia vulcana.** (Tab. LXX. fig. 25.)

*Syntomedia vulcana*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 83 (1889) <sup>1</sup>.

Primaries uniformly deep glossy black, with a rich purplish tinge in some lights; a small streak in the cell and a round spot near the base on the inner margin very pale primrose-colour; a white dot close to the base on the costal margin; secondaries deep glossy black, the basal part hyaline, as in *S. melanthus* (Cram.); head, thorax, and abdomen glossy bluish-black, the abdomen with a row of white spots on each side; the legs and antennæ black, the antennæ with the tips white on the underside. Expanse  $2\frac{2}{10}$  inches.

*Hab.* MEXICO, Tierra Colorada in Guerrero 2000 feet (*H. H. Smith*).

One specimen, captured in October 1888. Allied to *S. melanthus* (Cram.), and also to *S. sauleyi*, Guen., but very distinct from either.

**6. Syntomedia joda**, sp. n. (Tab. LXXI. fig. 15.)

Primaries and secondaries deep black; the primaries with a round spot about the middle and a wide band partly crossing the wing beyond it chrome-yellow; the secondaries with the base and a round spot about the middle chrome-yellow; the fringe black; the underside of both wings as above: head, thorax, legs, and antennæ black, the antennæ tipped with white, the collar, tegulæ, and base of the thorax chrome-yellow; abdomen above glossy blue-black, with two of the segments banded with chrome-yellow, beneath dull black, with one segment only banded with yellow. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Guadalajara (*coll. Schaus*).

A very distinct species, resembling in some respects the African *Euchromia*.

## ENDERA (I. p. 43).

**Endera vulcanus** (I. p. 43).

To the locality Mexico, add:—Cuesta de Misantla (*M. Trujillo*), Amula in Guerrero 6000 feet (*H. H. Smith*).

A rare species, of which we have received very few specimens.

## EUPYRA (I. p. 43).

**Eupyra principalis** (I. p. 43). (Tab. LXX. fig. 27, ♂.)

To the locality given, add:—MEXICO, Sierra Nevada de Colima 12,000 feet, Lake Chapala in Jalisco (*Richardson*), Jalisco (*Schumann*), Amecameca in Morelos (*F. D. G.*), Amula in Guerrero 6000 feet (*H. H. Smith*); GUATEMALA, in the city (*Rodriguez*).

Varies considerably in colour, some specimens being much brighter than others. We figure a male from Jalisco.

**Eupyra corydon** (I. p. 44).

To the locality given, add:—MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Flohr; Boucard, in mus. D.*).

### 3. *Eupyra dama*. (Tab. LXX. fig. 24.)

*Eupyra dama*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 170 (1894) <sup>1</sup>.

Primaries greenish-bronze colour, pinkish along the inner margin from the base almost to the anal angle; the cell, three oval spots below, and a large spot beyond it crossed by the black veins, all hyaline; secondaries hyaline, the inner and outer margins broadly bordered with greenish-bronze; the veins and fringes of both wings black; the underside similar to the upperside, but much blacker in colour: head, thorax, abdomen, antennæ, and legs black, the collar spotted with white. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*<sup>1</sup>), Jalapa (*coll. Schaus*).

A very distinct species, not closely allied to any other known to me. I believe Mr. Schaus's specimen is a male; it differs from mine in having fewer hyaline spaces on the primaries, and, instead of being entirely hyaline, the spaces are broken up into spots. The type from Orizaba is figured.

### 4. *Eupyra schausi*, sp. n. (Tab. LXX. fig. 21.)

Primaries black, shot with green near the base and at the anal angle, with an elongate spot near the base, one beyond on the costal margin, and a wide band crossing the wing near the apex, all hyaline, and two dots at the base white, the veins black; secondaries hyaline, the apex, outer margin, and a line crossing the wing at the end of the cell black: head, antennæ, thorax, tegulæ, and legs black, four spots on the collar, two on the front of the thorax, and one on each of the tegulæ bluish-white; abdomen metallic-green, each segment edged with black, a row of bluish-white spots on either side extending from the base to the anus. Expanse  $1\frac{7}{10}$  inch.

*Hab.* MEXICO, Orizaba (*coll. Schaus*).

This species is most nearly allied to *E. corydon*, Druce, but it is very distinct.

## SCENA (to follow the genus *Eupyra*, I. p. 44).

*Scena*, Walker, Cat. i. p. 263 (1854).

### 1. *Scena propylea*. (Tab. LXX. fig. 26.)

*Euchromia styx*?, var. ?, Walk. Cat. i. p. 264 <sup>1</sup>.

*Scena propylea*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 170 (1894) <sup>2</sup>.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*), Jalapa (*coll. Schaus*).

The type of *Zygæna styx*, Fabr., with which Walker placed this species, is in the Banksian collection in the British Museum. I believe it to be an African insect; it is very distinct from the specimen Walker described as a variety, to which I have recently given a name.

One specimen from Orizaba. The example described by Walker <sup>1</sup> was from an unknown locality.

## EMPYREUMA (to precede the genus *Calonotos*, I. p. 44).

*Empyreuma*, Hübner, Verz. bek. Schmett. p. 120 (1816); Butler, Journ. Linn. Soc., Zool. xii. p. 361, t. 28. fig. 19 (neurulation) (1876).

### 1. *Empyreuma sanguinosa*.

*Zygæna lichas*, Fabr. Spec. Ins. ii., App. p. 505 (1781) <sup>1</sup> (nec Cram.).

*Empyreuma lichas*, Butl. Journ. Linn. Soc., Zool. xii. p. 361 <sup>2</sup>.



*Sphinx sanguinosa*, Martyn, Psyche, t. 26. figg. 68, 69 (1797) <sup>3</sup>.

*Empyreuma sanguinosa*, Kirby, Cat. Lep. Het. i. p. 121 <sup>4</sup>.

*Hab.* HONDURAS <sup>2</sup> <sup>4</sup>.—ANTILLES <sup>4</sup>, Cuba <sup>2</sup>, Haiti <sup>2</sup>.

This species is included in our list on the authority of a specimen labelled "Honduras" in the British Museum. Fabricius's example is stated <sup>1</sup> to be from "Arabia," and that of Martyn <sup>3</sup> from "Tranquebar."

#### CALONOTOS (I. p. 44).

##### **Calonotos nexa** (I. p. 44).

To the localities given, add:—GUATEMALA, in the city (*Rodriguez*); HONDURAS (*Wittkugel, in mus. Staudinger*); COSTA RICA, Candelaria Mts. (*Underwood*).

##### 1 (A). **Calonotos sericea**.

*Glaucopis sericea*, Herr.-Schäff. Samml. aussereur. Schmett. p. 73, fig. 253 <sup>1</sup>.

*Lamocharis sericea*, Herr.-Schäff. loc. cit. p. 80 <sup>2</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—SOUTH AMERICA <sup>1</sup>.

One specimen from Chiriqui, agreeing with Herrich-Schäffer's figure.

##### 6. **Calonotos cucadma**. (Tab. LXX. fig. 22.)

*Cosmosoma* (?) *cucadma*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 171 (1894) <sup>1</sup>.

Primaries and secondaries black, streaked with greenish-blue at the base; the primaries with a small streak near the base, and a rather wide band partly crossing the wing nearest the apex, both hyaline; the secondaries with a hyaline line down the middle: head, thorax, and abdomen black, the abdomen with a greyish line on each side. Expanse  $1\frac{1}{4}$  inch.

*Hab.* PANAMA, Bugaba (*Champion* <sup>1</sup>), Chiriqui (*Trötsch, in mus. Staudinger*).

#### AMYCLES (I. p. 45).

##### **Amycles strigosa** (I. p. 46).

To the locality given, add:—MEXICO, Navarrete in Tepic, Santiago Iscuintla in Jalisco (*Schumann*), Teapa in Tabasco (*H. H. Smith*), North Yucatan (*Gaumer*).

##### **Amycles flavicollis** (I. p. 46).

To the localities given, add:—MEXICO, Rincon in Guerrero 2800 feet (*H. H. Smith*); HONDURAS (*coll. Candèze*).

#### SAURITA (I. p. 46).

##### **Saurita cassandra** (I. p. 46).

To the localities given, add:—MEXICO, Orizaba, Misantla (*F. D. G.*), Atoyac in Vera Cruz (*H. H. Smith*); HONDURAS (*Wittkugel, in mus. Staudinger*).

#### ICHORIA (I. p. 47).

##### **Ichoria lycone** (I. p. 47).

To the localities given, add:—MEXICO, Jalapa (*coll. Schaus*).

### 3. *Ichoria* (?) *parthia*. (Tab. LXX. fig. 23.)

*Ichoria* (?) *parthia*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 83 (1889)<sup>1</sup>.

Primaries and secondaries glossy bluish-green, the secondaries slightly hyaline near the base and inner margin; the underside of both wings bluer than above: head, thorax, abdomen, legs, and antennæ bluish-green. Expanse  $1\frac{3}{16}$  inch.

*Hab.* NICARAGUA, Chontales (*Belt*<sup>1</sup>); PANAMA, Bugaba 800 to 1500 feet (*Champion*<sup>1</sup>).

A pretty little species, not very nearly allied to any known to me. The Bugaba specimen is figured.

### PSEUDOSPHEOPTERA (to follow the genus *Ichoria*, I. p. 47).

*Pseudosphenoptera*, Butler, Journ. Linn. Soc., Zool. xii. p. 370, t. 28. fig. 4 (neurulation) (1876).

The type of this genus is *Euchromia basalis*, Walk., from the Amazons. A second species occurs in our region.

#### 1. *Pseudosphenoptera demoanassa*. (Tab. LXXI. fig. 1.)

*Pseudosphenoptera demoanassa*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 29 (July 1896).

♂. Primaries and secondaries dull black; a small hyaline streak on the costal margin of the primaries close to the base, below which is a rather wide short metallic-green streak; the fringe of both wings black; underside very similar to the upperside, the secondaries with a short green streak on the costal margin: head, antennæ, thorax, and abdomen black, the collar spotted with green, the abdomen striped with green from the base to the anus; legs black. Expanse  $1\frac{1}{2}$  inch.

*Hab.* PANAMA, Chiriqui (*in mus. Staudinger*<sup>1</sup>).

A second specimen in Dr. Staudinger's collection has more metallic green on the primaries.

### MACROCNEME (I. p. 47).

#### *Macrocneme leucostigma* (I. p. 47).

To the localities given, add:—MEXICO, Jalapa (*coll. Schaus*), Vera Cruz (*F. D. G.*), Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); HONDURAS (*Dyson*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Emperador (*J. J. Walker*), Taboga I. (*J. J. Walker*; *Mathew, in mus. D.*).

In the specimen from Emperador the metallic-green band that crosses the primaries is reduced to a few streaks; it is possible that upon receipt of more examples it may prove to belong to a distinct species.

#### *Macrocneme vittata* (I. p. 48).

To the localities given, add:—MEXICO, Teapa in Tabasco (*H. H. Smith*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); HONDURAS (*Wittkugel, in mus. Staudinger*).

#### 3 (A). *Macrocneme cyllarus*. (Tab. LXXI. fig. 2.)

*Macrocneme cyllarus*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 29 (July 1896)<sup>1</sup>.

Primaries and secondaries deep black; the primaries shot with green about the middle, this colour extending from the costal margin across the wing, but not reaching the inner margin; the fringes of both wings



black: head, palpi, and thorax black; the abdomen bright metallic-green, with two white lines on the underside extending from the base to the anus; antennæ black, the tips white; legs black, spotted with white. Expanse  $1\frac{1}{4}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Taboga I. (*J. J. Walker*).

The Chiriqui specimen is figured.

### 3 (B). *Macrocneme chrysitis*.

*Glaucopis chrysitis*, Guér. Icon. Règne Anim., Ins. p. 502 (1829-1838) <sup>1</sup>.

*Macrocneme chrysitis*, Kirby, Cat. Lep. Het. i. p. 129 <sup>2</sup>.

*Hab.* MEXICO, Bay of Campeche (*Perbosc* <sup>1</sup>).

### *Macrocneme iole* (I. p. 48).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*), Coatepec (*Brooks*), Misantla (*F. D. G.*).

Mr. Kirby, in his catalogue, sinks the name *M. iole* under *M. chrysitis* (Guér.); but, without seeing the type, I consider it very doubtful if this is correct, so many of the species being very closely allied.

### *Macrocneme adonis* (I. p. 48).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*), Valladolid in Yucatan (*Gaumer*); GUATEMALA, in the city (*Rodriguez*).

### 5 (A). *Macrocneme cinyras*. (Tab. LXXI. fig. 4.)

*Macrocneme cinyras*, Schaus, Ent. Amer. v. p. 88 (1889) <sup>1</sup>.

*Hab.* MEXICO, Jalapa, Coatepec (*Schaus* <sup>1</sup>).

This species is allied to *M. iole*, Druce.

### 5 (B). *Macrocneme ferrea*.

*Macrocneme ferra*, Butl. Journ. Linn. Soc., Zool. xii. p. 371 <sup>1</sup>.

*Hab.* HONDURAS (*coll. Schaus*).—COLOMBIA <sup>1</sup>; BRAZIL, Espiritu Santo <sup>1</sup>.

### 5 (C). *Macrocneme hesione*. (Tab. LXXI. fig. 3.)

*Macrocneme hesione*, Druce, Ann. & Mag. Nat. Hist. (6) ii. p. 239 (1888) <sup>1</sup>.

Primaries black, shot with purple, the apical half of the wing greyish, the veins black, a minute white dot close to the base; secondaries deep black; the underside of the primaries purplish-black, broadly white from the apex to the anal angle, the fringe black, that of the secondaries black, shot with purple along the costal margin: head, antennæ, thorax, legs, and abdomen black, the underside of the latter and the anus metallic-green. Expanse  $1\frac{3}{10}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger* <sup>1</sup>).

A pretty little species, quite distinct from any other known to me.

### *Macrocneme evelina* (I. p. 48).

To the locality given, add:—MEXICO, Orizaba (*coll. Schaus*).

## CALLICARUS (I. p. 48).

**Callicarus plumipes** (I. p. 49).

To the localities given, add :—MEXICO, Jalapa (*M. Trujillo*), Coatepec (*coll. Schaus*); GUATEMALA, in the city (*Rodriguez*).

Varies considerably in size, the specimens from Yucatan being very small.

**Callicarus laconia** (I. p. 49).

To the locality given, add :—MEXICO, Dos Arroyos, Rincon, and Acapulco in Guerrero (*H. H. Smith*), Jalapa (*coll. Schaus*); GUATEMALA, in the city (*Rodriguez*).

2 (A). **Callicarus laciades**.

*Callicarus laciades*, Schaus, Ent. Amer. v. p. 88 (1889)<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan<sup>1</sup>, Coatepec<sup>1</sup>, and Jalapa in Verá Cruz (*coll. Schaus*).

Very closely allied to *C. laconia*, Druce.

2 (B). **Callicarus misitra**. (Tab. LXXI. fig. 6, ♂.)

*Callicarus misitra*, Schaus, Ent. Amer. v. p. 88 (1889)<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*Schaus*<sup>1</sup>).

A very distinct species, at once distinguished from all the others of the genus by the two bright yellow spots at the back of the head. The type, a male, is figured.

2 (C). **Callicarus jalapensis**. (Tab. LXXI. fig. 7, ♀.)

*Callicarus jalapensis*, Schaus, Ent. Amer. v. p. 89 (1889)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*).

Allied to *C. laconia*, Druce. The type, a female, is figured.

**Callicarus texanus** (I. p. 49).

To the Mexican localities given, add :—Guadalajara in Jalisco (*Goldsmith, in mus. D.*), Orizaba (*Boucard, in mus. D.*).

4. **Callicarus punctatus**.

*Phyllæcia punctata*, Guér. Icon. Règne Anim., Ins. p. 504 (1829–1838)<sup>1</sup>; Kirby, Cat. Lep. Het. i. p. 129<sup>2</sup>.

*Euchromia punctata*, Walk. Cat. i. p. 249<sup>3</sup>.

*Hab.* MEXICO, Bay of Campeche<sup>1 2 3</sup>.

This species is unknown to me.



HORAMA (to follow the genus *Callicarus*, I. p. 49).

*Horama*, Hübner, Verz. bek. Schmett. p. 124 (1816); Walker, Cat. i. p. 251.

1. ***Horama jalapensis*.**

*Horama jalapensis*, Neum. Ent. Amer. vi. p. 63 (1890)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*Schaus*<sup>1</sup>).

MASTIGOCERA (I. p. 49).

***Mastigocera calvipes*** (I. p. 49).

To the localities given, add:—Acapulco (*H. H. Smith*); MEXICO, Jalapa and Paso de San Juan in Vera Cruz (*coll. Schaus*); GUATEMALA, in the city (*Rodriguez*).

Of this species we have received very few specimens. The one from Costa Rica is much yellower in colour than either of the others.

***Mastigocera œdipus*** (I. p. 49).

To the localities given, add:—MEXICO, Rincon in Guerrero (*H. H. Smith*), Jalapa (*coll. Schaus*).

Mr. Herbert Smith informs us that this moth closely resembles a species of Hemiptera found with it flying about flowers.

ISANTHRENE (I. p. 50).

***Isanthrene pompiloides*** (I. p. 50).

To the localities given, add:—MEXICO, Puebla 7000 to 8000 feet (*F. D. G.*), Jalapa (*M. Trujillo*), Atoyac in Vera Cruz (*H. H. Smith*).

***Isanthrene championi*** (I. p. 50).

To the Panama locality given, add:—Chiriqui (*Trötsch, in mus. Staudinger & mus. D.*).

Of this species I have now seen seven specimens, which do not show the slightest variation.

6. ***Isanthrene perbosci*.**

*Glaucopis perboscii*, Guér. Icon. Règne Anim., Ins. p. 501 (1829-1838)<sup>1</sup>; Walk. Cat. i. p. 155<sup>2</sup>.

*Isanthrene perboscii*, Kirby, Cat. Lep. Het. i. p. 132<sup>3</sup>.

*Hab.* MEXICO, Bay of Campeche<sup>1 2 3</sup>.

Unknown to me.

HOMŒOCERA (I. p. 51).

1 (A). ***Homœocera crassa*.**

*Homœocera crassa*, Feld. Reise der Novara, Lep. t. 102. fig. 26 (1874)<sup>1</sup>.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*).—COLOMBIA, Bogota<sup>1</sup>.

Three specimens from Costa Rica, almost identical with Felder's figure.

1 (B). **Homœocera rodriguezi.** (Tab. LXXI. fig. 5.)*Homœocera rodriguezi*, Druce, P. Z. S. 1890, p. 494<sup>1</sup>.

Primaries clear hyaline, the base broadly deep black, the costal, outer, and inner margins narrowly edged with black, the veins all black; secondaries similar to the primaries, very broadly bordered with black on the inner margin: head, thorax, base of the abdomen, antennæ, and legs black; the upperside of the abdomen banded with yellow, with very minute white spots on each side, the antennæ white at the tip. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*); GUATEMALA, in the city (*Rodriguez*<sup>1</sup>).

A very distinct species, allied to *H. crassa*, Feld., and *H. salvini*, Butl.

**Homœocera beatrix** (I. p. 51).*Homœocera scintillans*, anteà, i. p. 51 (nec Herr.-Schäff.).

The Costa Rican specimen referred by me to *A. scintillans* proves to be a worn individual of *A. beatrix*. I am indebted to Dr. Staudinger for sending me Herrich-Schäffer's type of *Læmocharis scintillans* for comparison.

6. **Homœocera sahacon.** (Tab. LXXI. fig. 8.)*Homœocera sahacon*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 29 (July 1896)<sup>1</sup>.

Primaries and secondaries yellowish hyaline; the primaries with the costal and inner margins near the base pale yellow, a bright blue spot at the base of the wing, the veins, apex, and outer and inner margins black; the secondaries with a black spot at the anal angle: head, antennæ, thorax, and legs black; abdomen deep blue-black, the segments edged with yellow. Expanse  $1\frac{8}{10}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*<sup>1</sup>).

This fine species is allied to *H. (Lagaria) acuminata*, Walk. (= *Gartha dalsa*, Schaus), from Brazil.

7. **Homœocera samina.** (Tab. LXXI. fig. 9.)*Homœocera samina*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 30 (July 1896)<sup>1</sup>.

*Female.* Primaries and secondaries hyaline, the veins, apex, and outer and inner margins of both wings black: antennæ and thorax black; head, tegulæ, and abdomen bright orange, the abdomen with each segment edged with black, and a central row of metallic-blue spots extending from the base to the anus; legs orange-yellow. Expanse  $1\frac{1}{2}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*<sup>1</sup>).

Very distinct from any described species.

## ERRUCA (I. p. 52).

**Erruca azia** (I. p. 53).

To the locality given, add:—MEXICO, Jalapa, Orizaba (*coll. Schaus*).

## MYRMECOPSIS (I. p. 53).

**Myrmecopsis semihyalina** (I. p. 53).

To the locality given, add:—MEXICO, Teapa in Tabasco (*H. H. Smith*).



**Myrmecopsis polistes** (I. p. 53).

To the localities given, add:—MEXICO, Venta de Zopilote in Guerrero 2800 feet (*H. H. Smith*).

## SPHECOSOMA (I. p. 54).

**Sphecosoma fasciolatum** (I. p. 54).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*).

## GYMNELIA (I. p. 54).

**Gymnelia gigantea** (I. p. 54).

To the locality given, add:—GUATEMALA (*Conradt, in mus. Staudinger*), Guatemala city (*Rodriguez*).

**Gymnelia xenodorus** (I. p. 55).

To the locality given, add:—MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*), Teapa in Tabasco (*H. H. Smith*).

## LÆMOCHARIS (I. p. 55).

**Læmocharis trigutta** (I. p. 55).

To the localities given, add:—COSTA RICA (*mus. Staudinger*).

**Læmocharis stryma** (I. p. 55).

To the locality given, add:—MEXICO, Orizaba (*coll. Schaus*).

2 (A). **Læmocharis masa.** (Tab. LXXI. fig. 10.)

*Læmocharis masa*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 83 (1889)<sup>1</sup>.

Primaries and secondaries hyaline, the primaries broadly tipped with black at the apex and along the outer margin; the secondaries edged with black from the apex to near the anal angle: head with a small spot on each side, and the thorax with a spot at the base, bright carmine; the abdomen, legs, and antennæ dull black; the front of the head and collar greyish-white. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*<sup>1</sup>); HONDURAS (*Wittkugel, in mus. Staudinger*).

A small species allied to *L. stryma*, Druce, from which it may be distinguished by the wide black apex of the primaries.

4. **Læmocharis (?) nox.** (Tab. LXXI. fig. 11.)

*Læmocharis nox*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 30 (July 1896)<sup>1</sup>.

Primaries and secondaries smoky hyaline, with the veins black: head, thorax, abdomen, antennæ, and legs black, the tegulæ and a spot at the base of the abdomen bright carmine. Expanse  $1\frac{1}{4}$  inch.

*Hab.* HONDURAS (*Wittkugel, in mus. Staudinger*<sup>1</sup>).

## GYMNOPODA (I. p. 55).

2. *Gymnopoda mecrida*. (Tab. LXXI. fig. 12.)

*Gymnopoda mecrida*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 84 (1889)<sup>1</sup>.

Primaries and secondaries uniform sooty-black, slightly hyaline at the base: head, tegulæ, and base of the thorax black, the rest of the thorax and the abdomen bright scarlet, the antennæ and legs black. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Durango city (*Becker*), Mexico city (*F. D. G.*).

This beautiful little species is allied to *G. subflamma*, Druce, from Chiriqui, from which it may be known by the entirely different colour of the thorax and abdomen.

## THRINACIA (I. p. 56).

2 (A). *Thrinacia ochracea*.

*Gymnopoda ochracea*, Feld. Reise der Novara, Lep. t. 102. fig. 22<sup>1</sup>.

*Pseudomya musca*, Schaus, P. Z. S. 1892, p. 275<sup>2</sup>.

*Thrinacia pontia*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 172 (1894)<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*Schaus*<sup>2</sup>, *M. Trujillo*<sup>3</sup>).—COLOMBIA, Bogota<sup>1</sup>.

2 (B). *Thrinacia prometina*. (Tab. LXXI. fig. 13.)

*Thrinacia prometina*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 172 (1894)<sup>1</sup>.

Primaries and secondaries semihyaline black, the veins and costal margin of the secondaries darkest: head, antennæ, thorax, and legs black, the sides of the head and thorax pale yellow; the abdomen yellow, with a rather wide black band extending from the base to the anus. Expanse 1 inch.

*Hab.* MEXICO, Atoyac in Vera Cruz (*Schumann*<sup>1</sup>).

One specimen, in rather poor condition.

*Thrinacia intermedia* (I. p. 56). (Tab. LXXI. fig. 14.)

To the Panama locality given, add:—Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

4. *Thrinacia ruatana*, sp. n. (Tab. LXXI. fig. 17.)

Primaries and secondaries smoky-black, the secondaries semihyaline near the base: head, antennæ, thorax, abdomen, and legs black, the collar and tegulæ dull red. Expanse  $\frac{3}{4}$  inch.

*Hab.* HONDURAS, Ruatan I. (*Gaumer*).

## PSEUDOCHARIS (I. p. 56).

*Pseudocharis sithon* (I. p. 57).

To the locality given, add:—MEXICO, Omilteme in Guerrero 8000 feet (*H. H. Smith*).

## PSEUDOMYA (I. p. 57).

*Pseudomya tipulina* (I. p. 57).

To the localities given, add:—MEXICO, Jalapa (*coll. Schaus*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Tamahu and Cahabon in Vera Paz (*Champion*); PANAMA, Bugaba, Tolé (*Champion*).



## PHEIA (I. p. 57).

2. *Pheia gemmata*.

*Pheia gemmata*, Butl. Journ. Linn. Soc., Zool. xii. p. 385 (1876)<sup>1</sup>; Illustr. Lep. Het. i. p. 30, t. 17. fig. 5<sup>2</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—COLOMBIA, Santa Marta<sup>1 2</sup>.

Dr. Staudinger's specimen is almost identical with Butler's figure, excepting that it has an orange-yellow spot on each side of the abdomen.

3. *Pheia albisigna*.

*Glaucopis albisigna*, Walk. Cat. i. p. 146<sup>1</sup>.

*Pheia albisigna*, Butl. Journ. Linn. Soc., Zool. xii. p. 385<sup>2</sup>; Illustr. Lep. Het. i. p. 30, t. 17. fig. 14<sup>3</sup>.

*Hab.* HONDURAS<sup>1-3</sup> (*Mus. Brit.*).—AMAZONS, Ega<sup>2 3</sup>.

## MOCHLOPTERA (I. p. 58).

*Mochloptera xanthocera* (I. p. 58).

To the localities given, add:—MEXICO, Orizaba (*Boucard, in mus. D.*), Jalapa (*M. Trujillo*), Coatepec (*Brooks*), Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

## COSMOSOMA (I. p. 58).

*Cosmosoma metallescens* (I. p. 58).

*Cosmosoma metallescens*, *anteh*, i. p. 58 (part.).

To the localities given, add:—MEXICO, Jalapa (*coll. Schaus*), Teapa in Tabasco (*H. H. Smith*).

I find on receipt of more specimens that *C. chalcosticta*, Butl., is distinct from *C. metallescens*.

2 (A). *Cosmosoma ada*.

*Glaucopis ada*, Herr.-Schäff. Samml. aussereur. Schmett. p. 73, fig. 297<sup>1</sup>.

*Læmocharis ada*, Herr.-Schäff. loc. cit. p. 81<sup>2</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—BRAZIL, Rio Janeiro<sup>1</sup>.

2 (B). *Cosmosoma bura*.

*Glaucopis bura*, Herr.-Schäff. Samml. aussereur. Schmett. p. 73, fig. 239<sup>1</sup>.

*Læmocharis bura*, Herr.-Schäff. loc. cit. p. 80<sup>2</sup>.

*Cosmosoma bura*, Walk. Cat. vii. p. 1612<sup>3</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—BRAZIL, Rio Janeiro<sup>1</sup>.

This insect is allied to *Dycladia discifera* (Walk.), with which Mr. Kirby places it, but it is quite a distinct species.

2 (c). **Cosmosoma aleus.** (Tab. LXXI. fig. 16.)

*Cosmosoma aleus*, Schaus, Ent. Amer. v. p. 89 (1889)<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan<sup>1</sup> and Jalapa in Vera Cruz (*Schaus*), Temax in North Yucatan (*Gaumer*); GUATEMALA, Coban in Vera Paz (*Conradt*); COSTA RICA, Candelaria Mts. (*Underwood*).

This species is very closely allied to *C. confine*, Herr.-Schäff. Mr. Schaus states<sup>1</sup> that it is very abundant amongst low shrubs on the outskirts of the forest, and was found in large numbers flying with *C. auge*, *C. cingulatum*, and *C. impar*.

2 (D). **Cosmosoma protus.** (Tab. LXXI. fig. 19.)

*Cosmosoma protus*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 171 (1894)<sup>1</sup>.

Primaries and secondaries hyaline; the primaries with the costal and inner margins, the base, and a short band extending from the apex to the end of the cell, bright orange-yellow, the apex and outer margin black; the secondaries broadly bordered with black: head, thorax, and abdomen bright blue-black, with blue spots; tegulae bright orange; legs and antennae black, the antennae with the tips white. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*<sup>1</sup>).

Allied to *C. aleus* and *C. drucei*.

3. **Cosmosoma drucei.**

*Cosmosoma elegans*, Druce, anteà, i. p. 59 (nec Butl.).

*Cosmosoma drucei*, Kirby, Cat. Lep. Het. i. p. 140.

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*), Atoyac (*H. H. Smith*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

3 (A). **Cosmosoma ethodæa.** (Tab. LXXI. fig. 20.)

*Cosmosoma ethodæa*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 84 (1889)<sup>1</sup>.

Primaries and secondaries yellowish hyaline; the primaries with the costal margin from the base to near the apex edged with bright yellow, the inner margin from the base to beyond the middle edged with bright orange-yellow, and the apex and outer margin broadly black, and with a black spot at the end of the cell; the secondaries with the apex and outer margin as far as the anal angle black, a black line crossing the middle of the wing from the costal margin to the anal angle; the underside as above: head and the underside of the thorax and abdomen black; the antennae black, whitish at the tip; the collar dark blue; the upperside of the thorax and abdomen bright orange, banded with dark blue, the two anal segments dark blue; the tegulae orange, edged with black; the legs black. Expanse  $1\frac{3}{10}$  inch.

*Hab.* MEXICO, Atoyac in Vera Cruz (*H. H. Smith*<sup>1</sup>).

A beautiful species, allied to *C. drucei*.

**Cosmosoma advena** (I. p. 59).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*).



7 (A). **Cosmosoma zurcheri.** (Tab. LXXI. fig. 18.)

*Cosmosoma zurcheri*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 353 (1894) <sup>1</sup>.

*Male*. Similar to *C. hector*, Staud., but with the apical black border of the wings slightly wider, the first segment of the abdomen black, and the two anal segments black, spotted with bright dark blue on each side; tibiae and tarsi yellow, instead of black.—*Female*. Similar to the male. Expanse  $1\frac{1}{2}$  inch.

*Hab.* COSTA RICA, Santa Clara Valley 1200 feet (*Zurcher* <sup>1</sup>).

Closely allied to *C. hector*, but differing from it in the black anal segments of the abdomen.

7 (B). **Cosmosoma pudica.** (Tab. LXXI. fig. 21, ♀.)

*Cosmosoma pudica*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 353 (1894) <sup>1</sup>.

*Female*. Primaries and secondaries hyaline, with the veins, apex, and outer and inner margins black, the base of the primaries clothed with pale yellow hairs: head, antennæ, and legs black, the collar, tegulæ, thorax, and abdomen pale yellow, the thorax with a small white spot on each side, the anal segment and the anus black. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Orizaba (*coll. Schaus*); COSTA RICA, Santa Clara Valley 1200 feet (*Zurcher* <sup>1</sup>); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

A male from Orizaba in Mr. Schaus's collection has the abdomen entirely yellow, but it agrees in other respects with the female type figured, excepting that it is brighter in colour, being a fresh specimen.

**Cosmosoma cingulatum** (I. p. 60).

To the localities given, add:—MEXICO, Guadalajara in Jalisco (*Goldsmith, in mus. D.*), Dos Arroyos, R. Papagaio, and Hacienda de la Imagen in Guerrero, Teapa in Tabasco (*H. H. Smith*), Jalapa, Omealca near San Lorenzo (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*), Atoyac in Vera Cruz (*Schumann*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

10 (A). **Cosmosoma festivum.**

*Glaucopis festiva*, Walk. Cat. i. p. 171 (1854) <sup>1</sup>.

*Cosmosoma festivum*, Kirby, Cat. Lep. Het. i. p. 141 <sup>2</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*); HONDURAS <sup>2</sup> (*Dyson* <sup>1</sup>).

**Cosmosoma impar** (I. p. 60). (Tab. LXXI. fig. 22.)

*Cosmosoma impar*, Walk. anteà, i. p. 60 (part.).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

We figure a Mexican specimen. The Panama locality must be erased, the specimens from thence belonging to the following species.

12. **Cosmosoma vernana**, sp. n.

*Cosmosoma impar*, antea, i. p. 60, t. 7. fig. 20 (part.) (nec Walk.).

Closely allied to *C. impar*, Walk., but larger and more robust, with all the veins and the inner margin of the primaries black, instead of reddish; the male with a wide white band on the underside of the abdomen. Expanse 2 inches.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, Coban in Vera Paz (*Conradt*); PANAMA, Volcan de Chiriqui (*Champion*).

13. **Cosmosoma meres**. (Tab. LXXI. fig. 23.)

*Cosmosoma meres*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 30 (July 1896)<sup>1</sup>.

Primaries yellowish hyaline, the costal margin and the base deep yellow, the apex, the outer and inner margins, and the veins black; secondaries hyaline, the costal margin yellow, the outer and inner margins black: head, antennæ, thorax, and abdomen black, the abdomen spotted with blue, and with two spots at the base and two about the middle dark chrome-yellow; legs black. Expanse  $1\frac{1}{4}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch*, in *mus. Staudinger*<sup>1</sup>).

ILIPA (I. p. 61).

2. **Ilipa unxa**. (Tab. LXXI. fig. 24.)

*Ilipa unxa*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 31 (July 1896)<sup>1</sup>.

Primaries yellowish hyaline, with the costal margin from the end of the cell to the apex, the veins, and base black, the apex broadly black; secondaries hyaline, edged with black at the apex and anal angle: head metallic-green, the antennæ, tegulæ, thorax, abdomen, and legs black; the abdomen with a small red spot on each side at the base, the anal segment metallic-green. Expanse  $1\frac{3}{10}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch*, in *mus. Staudinger*<sup>1</sup>).

3. **Ilipa braconoides**.

*Glaucopis (Ilipa) braconoides*, Walk. Cat. i. p. 166<sup>1</sup>.

*Ilipa braconoides*, Butl. Illustr. Lep. Het. i. p. 32, t. 11. fig. 15 (1877)<sup>2</sup>.

*Hab.* MEXICO, Paso de San Juan, Coatepec (*coll. Schaus*); HONDURAS (*Dyson*<sup>1 2</sup>).

DYCLADIA (I. p. 61).

**Dycladia mexicana** (I. p. 61).

To the Mexican locality given, add:—Orizaba (*Flohr*; *F. D. G.*; *Boucard*, in *mus. D.*).

The colour of the abdomen of this species varies from red to yellow.

1 (A). **Dycladia lydia**. (Tab. LXXI. fig. 25.)

*Dycladia lydia*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 84 (1889)<sup>1</sup>.

Primaries black, with the hyaline spaces as in *D. mexicana*, but slightly larger; secondaries hyaline, bordered with black at the apex and outer margin, but not so deeply as in *D. mexicana*: head bright dark blue in front; the thorax and basal half of the abdomen chrome-yellow; the tegulæ chrome-yellow, edged with black on the lower side; antennæ black, with white tips; the sides of the abdomen near the base and two or three small dots in a line down the middle bright greenish-blue, the lower half, anus, and underside bright red, the anal segment banded with blue; legs black. Expanse  $1\frac{1}{4}$  inch.



*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith* <sup>1</sup>).

Allied to *D. mexicana*, but differing from it in the coloration of the thorax and abdomen.

1 (B). **Dycladia thera.** (Tab. LXXI. fig. 26.)

*Dycladia thera*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 85 (1889) <sup>1</sup>.

Primaries black, with the hyaline markings almost identical with those of *D. mexicana*, but with the apical spot smaller and narrower; the secondaries with the black margin considerably narrower than in that species; the underside of both wings as above: head and collar bright blue, the thorax and upperside of the abdomen dull black; the tegulæ black, with a yellow dot at the base; the abdomen with a yellow spot on each side close to the base, the sides and the anal segment bright blue, the underside and the anal tuft bright scarlet; antennæ and legs black. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith* <sup>1</sup>).

Allied to *D. mexicana*, but larger, and differing in the coloration of the head, thorax, and abdomen.

1 (c). **Dycladia demonia**, sp. n. (Tab. LXXI. fig. 29.)

Primaries deep black, darkest close to the base, the fringe black; secondaries hyaline, with the veins, apex, and outer margin black: head bright metallic-blue; antennæ black, banded with white near the tip; collar, tegulæ, thorax, and base of the abdomen chrome-yellow, the rest of the upperside of the abdomen metallic blue-black, with a row of orange spots on each side of the three middle segments; underside of the thorax, and the coxæ and femora of the fore legs, bright carmine; underside of the abdomen black. Expanse  $1\frac{4}{10}$  inch.

*Hab.* MEXICO, Jalapa (*coll. Schaus*).

Allied to *D. lydia*, Druce, but very distinct therefrom.

**Dycladia vittata** (I. p. 61).

To the localities given, add:—MEXICO, Rinconada and Orizaba in Vera Cruz (*coll. Schaus*), Temax in North Yucatan (*Gaumer*).

**Dycladia correbioides** (I. p. 61).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Boucard*, in *mus. D.*), Misantla (*F. D. G.*), Coatepec (*Brooks*), Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, in the city (*Rodriguez*); HONDURAS (*Candèze*, in *mus. D.*); COSTA RICA, Santa Clara Valley 1200 feet (*Zurcher*), Candelaria Mts. (*Underwood*).

The specimen from Honduras is much more hyaline than any of the others I have seen, and it may prove to belong to a distinct species.

**Dycladia imitata** (I. p. 62).

To the locality given, add:—HONDURAS (*coll. Candèze*).

**Dycladia augusta** (I. p. 62).

To the locality given, add:—MEXICO, Jalapa (*M. Trujillo*).

**Dycladia semifulva** (I. p. 62).

To the locality given, add :—MEXICO, Orizaba (*coll. Schaus*).

S (A). **Dycladia utica**. (Tab. LXXI. fig. 28.)

*Dycladia utica*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 85 (1889)<sup>1</sup>.

Primaries hyaline, broadly bordered at the apex and along the outer margin with black, the base red; secondaries hyaline, with the apex and outer margin edged with black: head, thorax, and abdomen black; the collar and the tegulae red; a streak down the centre of the thorax and two spots at the base white; the underside of the thorax and the base of the abdomen beneath white; the legs black and white; the antennae black, becoming white near the tip. Expanse  $1\frac{1}{10}$  inch.

*Hab.* MEXICO, La Venta in Guerrero 300 feet (*H. H. Smith*<sup>1</sup>).

This species is most nearly allied to an unnamed one from the Bahamas in my own collection, and comes into the group with *D. columbina* (Hübner).

S (B). **Dycladia pyrrha**. (Tab. LXXI. fig. 27.)

*Dycladia pyrrha*, Schaus, Ent. Amer. v. p. 89 (1889)<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*Schaus*<sup>1</sup>).

S (C). **Dycladia mora**, sp. n. (Tab. LXXII. fig. 8.)

Primaries and secondaries black; the primaries with the base and a wide band crossing the middle of the wing from the costal margin nearly to the angle clear hyaline; the secondaries with a small hyaline streak on the costal margin; the fringes of both wings black; underside as above, but slightly bluer in colour: head, antennae, thorax, abdomen, and legs black, two spots at the base of the thorax, a narrow line on each side of the abdomen, and the underside of both bluish-white. Expanse 1 inch.

*Hab.* PANAMA, Chiriqui (*mus. Staudinger*).

I have seen several specimens of this species, which show considerable variation in the size of the hyaline markings on the primaries.

**Dycladia felderi** (I. p. 63).

To the localities given, add :—MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Flohr*; *Boucard*, in *mus. D.*), Atoyac (*Schumann*, *H. H. Smith*), Paso de San Juan in Vera Cruz (*coll. Schaus*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

10. **Dycladia ladan**. (Tab. LXXII. fig. 2.)

*Dycladia ladan*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 31 (July 1896)<sup>1</sup>.

Primaries and secondaries clear hyaline, the veins, the costal, outer, and inner margins, and a rather wide band crossing the primaries from the costal margin to the anal angle, black: head, antennae, thorax, abdomen, and legs black, the abdomen spotted with red at the base. Expanse  $1\frac{1}{10}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch*, in *mus. Staudinger*<sup>1</sup>).

PHÆNARETE (to follow the genus *Dycladia*, I. p. 63).

*Phænarete*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 31 (July 1896).

Type *P. diana*, Druce.

Antennae minutely ciliated, rather short; palpi upturned, the third joint very short; legs slender, without any tufts: head small, thorax stout, abdomen short and thick: wings very long and narrow, costal margin straight; secondaries wider than the primaries.



1. *Phænarete diana*. (Tab. LXXII. fig. 1.)

*Phænarete diana*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 31 (July 1896)<sup>1</sup>.

Primaries hyaline, the base, veins, a narrow band crossing the wing at the end of the cell, and the apex and inner margin black, a small white dot on the costal margin close to the base; secondaries hyaline, the veins and outer margin black: head, antennæ, thorax, abdomen, and legs black; a small white spot on each side of the head and a row of white spots on each side of the abdomen; the abdomen white at the base on the underside. Expanse  $1\frac{1}{2}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*<sup>1</sup>).

A very distinct species, not nearly allied to any known to me.

## ARGYROEIDES (I. p. 64).

*Argyroeides eurypon* (I. p. 64).

To the locality given, add:—PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

4. *Argyroeides minuta*. (Tab. LXXII. fig. 3.)

*Argyroeides minuta*, Druce, Ann. & Mag. Nat. Hist. (6) ii. p. 240 (1888)<sup>1</sup>.

Primaries and secondaries hyaline, shaded from the base to beyond the middle with pale yellow, all the veins deep black: head, antennæ, thorax, and legs black; abdomen black, broadly banded at the base with yellowish-white. Expanse  $\frac{3}{4}$  inch.

*Hab.* HONDURAS (*Wittkugel, in mus. Staudinger*<sup>1</sup>).

This small species is allied to *A. menephron*, Druce, from which it may be separated by its smaller size and entirely different coloration.

5. *Argyroeides moza*. (Tab. LXXII. fig. 4.)

*Argyroeides moza*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 32 (July 1896)<sup>1</sup>.

Primaries and secondaries yellowish hyaline, the veins all dark brownish-black; the primaries with the costal margin from the base to the apex bright carmine, and the outer and inner margins bordered with black, more broadly so near the apex; the secondaries edged with black from the apex to the anal angle: antennæ, head, thorax, and abdomen black, the base of the latter and the tip of the antennæ white; legs black; anus carmine. Expanse  $1\frac{1}{4}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*<sup>1</sup>).

6. *Argyroeides* (?) *faveria*. (Tab. LXXII. fig. 5.)

*Argyroeides* (?) *faveria*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 32 (July 1896)<sup>1</sup>.

*Female*. Primaries and secondaries hyaline; the primaries with the base, costal and inner margins, and veins chrome-yellow to the middle of the wing, beyond which the veins are black, the apex broadly black, the outer margin edged with black, and with an elongated black spot at the anal angle; the secondaries with the apex edged with black: head, antennæ, and palpi deep black; the collar, tegulæ, thorax, and basal half of the abdomen deep chrome-yellow, the anal segments of the abdomen black. Expanse  $1\frac{1}{10}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*<sup>1</sup>).

## TRICHURA (I. p. 65).

*Trichura druryi* (I. p. 65).

To the localities given, add:—MEXICO, Cuesta de Misantla (*M. Trujillo*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

NEOTRICHURA (to follow the genus *Trichura*, I. p. 65).

*Neotrichura*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 33 (July 1896).

Type *N. penates*, Druce.

Allied to *Trichura*, but differs in having two brands on the upperside of the inner margin of the primaries and the costal margin of the secondaries being turned over on the underside, forming a kind of sac, containing a tuft of silky-white hair. The wings are also more pointed than they are in *Trichura*; in other respects it is very similar to that genus.

1. *Neotrichura penates*. (Tab. LXXII. fig. 10.)

*Neotrichura penates*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 33 (July 1896).

Primaries and secondaries clear hyaline, with the veins black; the primaries with the apex and the outer and inner margins broadly bordered with black and with two pale brown brands on the inner margin about the middle; the secondaries with the apex, costal and inner margins broadly bordered with black: head, thorax, abdomen, and legs black; antennæ black, tipped with white; the front of the thorax, a spot on each side of the head, and the base and sides of the abdomen metallic-blue. Expanse  $1\frac{3}{4}$  inch.

*Hab.* PANAMA, Chiriqui (Trötsch, in mus. Staudinger<sup>1</sup>).

## SYNTRICHURA (I. p. 65).

2. *Syntrichura reba*. (Tab. LXXII. fig. 7.)

*Syntrichura reba*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 33 (July 1896)<sup>1</sup>.

Primaries and secondaries hyaline, the veins, costal, outer, and inner margins of both wings black: head, base of the thorax, and last two segments of the abdomen bright metallic-blue, the rest of the thorax and abdomen, and the tegulæ, black, the abdomen banded with white at the base; collar greyish-white; antennæ and legs black. Expanse 1 inch.

*Hab.* PANAMA, Chiriqui (Trötsch, in mus. Staudinger<sup>1</sup>).

3. *Syntrichura philocles*. (Tab. LXXII. fig. 9.)

*Syntrichura philocles*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 34 (July 1896)<sup>1</sup>.

Primaries and secondaries hyaline; the veins, apex, and outer and inner margins of the primaries black; the secondaries with the costal margin white, and the apex and outer margin edged with black: head, antennæ, thorax, and abdomen black; a carmine spot on each side of the head; underside of the abdomen banded with white, and a row of white spots on each side; the legs black. Expanse  $1\frac{1}{10}$  inch.

*Hab.* PANAMA, Chiriqui (Trötsch, in mus. Staudinger<sup>1</sup>).

## NAPATA (I. p. 66).

*Napata leucotelus* (I. p. 66).

To the localities given, add:—MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*), Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*), San Lorenzo (*M. Trujillo*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); HONDURAS, Ruatan I. (*Gaumer*).



**Napata guatemalena** (I. p. 66). (Tab. LXXII. fig. 6.)

To the localities given, add :—MEXICO, Jalapa (*coll. Schaus*).

We now figure the type from Tamahu: two specimens only were captured by Mr. Champion.

CHLOROPSINUS (to follow the genus *Napata*, I. p. 66.)

*Chloropsinus*, Butler, Journ. Linn. Soc., Zool. xii. p. 409, t. 29. fig. 1 (1876).

1. **Chloropsinus potentia**. (Tab. LXXII. fig. 12.)

*Chloropsinus potentia*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 171 (1894)<sup>1</sup>.

Primaries and secondaries brownish-black, with all the veins darker: head, antennæ, abdomen, and legs brownish-black, the thorax and tegulæ bright orange. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*<sup>1</sup>), Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*).

We figure the type from Orizaba.

## PROCALYPTA (I. p. 66).

**Procalypta subcyanea** (I. p. 67).

To the locality Mexico, add :—Jalapa, Cuesta de Misantla (*M. Trujillo*).

## PTERYGOPTERUS (I. p. 67).

1. **Pterygopterus leucomela**.

*Automolis leucomela*, Walk. Cat. vii. p. 1636 (1856)<sup>1</sup>; Schaus, P. Z. S. 1896, p. 636<sup>2</sup>.

*Pterygopterus superbus*, Druce, anteà, i. p. 67, t. 8. fig. 7<sup>3</sup>.

To the locality given, add :—AMAZONS, Pará<sup>1</sup>.

2. **Pterygopterus clavipennis**. (Tab. LXXII. fig. 11.)

*Pterygopterus clavipennis*, Butl. Journ. Linn. Soc., Zool. xii. p. 411, t. 29. fig. 10<sup>1</sup>.

*Hab.* MEXICO, Orizaba (*coll. Schaus*).—BRAZIL, Espiritu Santo<sup>1</sup>.

The example from Orizaba, from which our figure is taken, is, I believe, a female of *P. clavipennis*, the secondaries of which are not nearly so much elongated as shown in Butler's figure. Mr. Schaus's specimen differs from the type in being shot with blue instead of green.

## ANTICHLORIS (I. p. 68).

5. **Antichloris ruatana**. (Tab. LXXII. fig. 14.)

*Antichloris ruatana*, Druce, Ann. & Mag. Nat. Hist. (6) ii. p. 241 (1888)<sup>1</sup>.

Primaries and secondaries smoky-black, the primaries slightly paler near the apex: head, thorax, abdomen, legs, and antennæ black. Expanse 1 inch.

*Hab.* HONDURAS, Ruatan I. (*Gaumer*<sup>1</sup>).

Allied to *A. anthracina* (Walk.).

## ACLYTIA (I. p. 69).

**Aclytia heber** (I. p. 69).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Flohr*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

**Aclytia punctata** (I. p. 70).

To the localities given, add:—BRITISH HONDURAS, Belize (*Blancaneaux*); COSTA RICA, Santa Clara Valley 1200 feet (*Zurcher*).

**Aclytia conspicua** (I. p. 70).

*Aclytia lucania*, Schaus, Ent. Amer. v. p. 89 (1889)<sup>1</sup>.

To the localities given, add:—MEXICO, Jalapa, Cuesta de Misantla (*M. Trujillo*), Coatepec (*Schaus*<sup>1</sup>); COSTA RICA, Candelaria Mts. (*Underwood*).

This insect is possibly the *A. (Glaucopis) ventralis*, Guér., the type of which I have not seen.

5. **Aclytia rufiventris**. (Tab. LXXII. fig. 13.)

*Aclytia rufiventris*, Schaus, P. Z. S. 1894, p. 228<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*Schaus*<sup>1</sup>).

There are two males and one female of this species in Mr. Schaus's collection. *A. rufiventris* closely resembles *Heliura atava*, Druce.

6. **Aclytia moloneyi**, sp. n. (Tab. LXXII. fig. 16.)

Primaries brownish-black, without marking of any kind; secondaries brownish-black, with the base whitish hyaline, crossed by the black veins; the fringes of both wings black; the underside as above: head and the front and base of the thorax bright metallic blue-green; tegulae black, with a bright scarlet spot at the base; abdomen black, except the last four segments, which are metallic green in the middle; antennae, palpi, and legs black; the underside of the thorax and that of the two basal segments of the abdomen white, the head with two red spots beneath. Expanse 1½ inch.

*Hab.* BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

I have much pleasure in naming this species after Sir Alfred Moloney, who has sent me many interesting insects from Belize.

## CHARIDEA (I. p. 70).

**Charidea submacula** (I. p. 70).

To the localities given, add:—MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Coban in Vera Paz (*Conradt*).

**Charidea bella** (I. p. 72).

*Cyanopepla cruenta*, Clcm. Proc. Acad. Phil. 1860, p. 545<sup>1</sup>.

To the localities given, add:—MEXICO, Coatepec (*Brooks*), Cuesta de Misantla (*M. Trujillo*); GUATEMALA, in the city (*Rodriguez*).

The type of *Cyanopepla cruenta* was found at Jalapa<sup>1</sup>, whence I have already recorded the insect.



9. **Charidea ira.** (Tab. LXXII. fig. 15.)

*Charidea ira*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 34 (July 1896) <sup>1</sup>.

*Male.* Primaries deep black, edged at the base on the inner margin with a metallic blue streak; a wide bright carmine band extends from the base to the end of the cell and then to the anal angle; the inner margin of the wing black; secondaries black, with the apex bright carmine; the fringes of both wings black; the underside very much as above: head, thorax, and abdomen bright metallic-blue, the thorax clothed with black hairs and the abdomen banded with black; antennæ and palpi black. Expanse  $1\frac{4}{10}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger* <sup>1</sup>).

A very distinct species, not closely allied to any other known to me. It differs from all the allied forms in its very much narrower primaries.

PSEUDOCHARIDEA (to follow the genus *Charidea*, I. p. 72).

*Pseudocharidea*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 35 (July 1896).

Allied to *Charidea*, from which it differs in the primaries being broader, the costal margin considerably arched about the middle, and the apex more rounded, and by having two brands on the underside close to the costal margin nearest the apex. The secondaries are very similar to those of *Charidea*, but are more rounded at the apex. The antennæ are rather long and slightly pectinated. In all other respects it is very similar to *Charidea*.

1. **Pseudocharidea eion.** (Tab. LXXII. fig. 26, ♂.)

*Pseudocharidea eion*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 36 (July 1896) <sup>1</sup>.

*Male.* Primaries deep black, streaked with metallic blue at the base and on the costal margin; a wide orange-yellow band crosses the wing about the middle, extending from the costal margin almost to the anal angle; the fringe black; secondaries black, shot with bright metallic blue from the base; the outer margin from the apex to the anal angle broadly bordered with orange-yellow; the fringe yellow; the underside very similar to the upperside, but with rather more blue on the wings: head black, with a white dot on each side, the collar streaked with blue; tegulæ black, edged with metallic blue; thorax and abdomen bright metallic blue, the abdomen with a black line on each side, the underside of the thorax white; antennæ black; legs slightly metallic blue-black. Expanse  $1\frac{3}{4}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger* <sup>1</sup>).

METRIOPHYLA (I. p. 73).

**Metriophyla apicalis** (I. p. 73).

To the localities given, add:—MEXICO, Atoyac in Vera Cruz (*H. H. Smith*); COSTA RICA, Santa Clara Valley 1200 feet (*Zurcher*).

The specimens from San Gerónimo, Guatemala, prove to be females of *M. alpha*, Druce; this locality must therefore be transferred to that species, which follows *M. apicalis* in the earlier part of this work.

3. **Metriophyla lelex.**

*Heliura lelex*, Druce, P. Z. S. 1890, p. 495 (♂ ♀) <sup>1</sup>.

*Hab.* MEXICO, Morelos (*coll. Schaus*).—ECUADOR <sup>1</sup>.

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This insect is allied to *M. apicalis* (Herr.-Schäff.), and *M. alpha*, Druce, the female being quite distinct from the females of either of those species.

#### HELIURA (I. p. 74).

##### **Heliura leneus** (I. p. 74).

To the localities given, add:—MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*), Jalapa (*M. Trujillo*); COSTA RICA, Santa Clara Valley 1200 feet (*Zurcher*), Candelaria Mts. (*Underwood*).

##### **Heliura lamia** (I. p. 74).

To the localities given, add:—MEXICO, Coatepec (*coll. Schaus*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Tröttsch, in mus. Staudinger*).

##### 6. **Heliura pyrrhosoma.** (Tab. LXXII. fig. 19.)

*Heliura pyrrhosoma*, Butl. Journ. Linn. Soc., Zool. xii. p. 418 (1876) <sup>1</sup>.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*).—AMAZONS, Pará <sup>1</sup>.

Two specimens from Costa Rica, almost identical with Butler's type in the National collection.

#### AUTOMOLIS (I. p. 75).

*Ormetica*, Clemens, Proc. Acad. Phil. 1860, p. 545.

##### 3. **Automolis tæniata.**

*Chelonia tæniata*, Guér. Icon. Règne Anim., Ins. p. 514 (1829-38) <sup>1</sup>.

*Ormetica sphingiformis*, Clem. Proc. Acad. Phil. 1860, p. 545 <sup>2</sup>.

*Automolis imitata*, Druce, anteà, i. p. 75, t. 8. fig. 27 <sup>3</sup>.

To the localities given, add:—MEXICO, Coatepec (*Brooks*), Orizaba <sup>1</sup> (*Boucard, in mus. D.*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

The type of *Ormetica sphingiformis*, Clem., was from Jalapa, from whence I have already recorded this species.

##### 5. **Automolis subulifera.**

*Eucyrtia (Automolis) subulifera*, Feld. Reise der Novara, Lep. t. 102. fig. 3, Index, p. 4 <sup>1</sup>.

*Hab.* PANAMA <sup>1</sup>.

I have not seen a specimen of this species.

##### 6. **Automolis fulgurata.**

*Automolis fulgurata*, Butl. Journ. Linn. Soc., Zool. xii. p. 420 <sup>1</sup>; Illustr. Lep. Het. i. p. 46, t. 18. fig. 5 <sup>2</sup>.

*Hab.* PANAMA, Chiriqui (*Tröttsch, in mus. Staudinger*).—BRAZIL, Espiritu Santo <sup>1 2</sup>.

Dr. Butler's figure is a poor one; it does not show the neuration of the primaries.



### 7. *Automolis chrysomelas*.

*Automolis chrysomelas*, Walk. Cat. vii. p. 1636 (1856)<sup>1</sup>; Schaus, P. Z. S. 1896, p. 636<sup>2</sup>.

*Eucyrtia* (*Automolis*) *geometrica*, Feld. Reise der Novara, Lep. t. 102. fig. 6, Index, p. 4<sup>3</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—GUIANA<sup>3</sup>; BRAZIL<sup>1</sup>.

### 8. *Automolis nabdalsa*. (Tab. LXXII. fig. 21, ♀.)

*Automolis nabdalsa*, Schaus, Ent. Amer. v. p. 90 (1889)<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*Schaus*<sup>1</sup>).

Mr. Schaus states that this species bears a certain resemblance to *Eucyrtia prætecta*, Feld. The type, a female, is figured.

### 9. *Automolis orbona*. (Tab. LXXII. fig. 20, ♂.)

*Automolis orbona*, Schaus, Ent. Amer. v. p. 90 (1889)<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*Schaus*<sup>1</sup>).

Described from two males, from one of which our figure is taken.

### 10. *Automolis parma*. (Tab. LXXII. fig. 17, ♂.)

*Automolis parma*, Schaus, Ent. Amer. v. p. 90 (1889)<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*Schaus*<sup>1</sup>).

Mr. Schaus states that this species is very similar to *A. contraria*, Walk., and differs chiefly in the narrower outer margin of the primaries and in the position of the white apical spot. We figure the type, a male.

### 11. *Automolis tegyra*. (Tab. LXXII. fig. 24.)

*Automolis tegyra*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 36 (1896)<sup>1</sup>.

Primaries deep black, crossed from the costal to the inner margin by two wide primrose-yellow bands, the first near the base, the second nearest the apex; secondaries yellow, broadly bordered with black; the underside as above; head, antennæ, palpi, and thorax black. the collar, front of thorax, and tegulæ primrose-yellow; abdomen dark chrome-yellow, the two anal segments black, edged with metallic-blue; the legs black. Expanse  $1\frac{1}{2}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*<sup>1</sup>).

### 12. *Automolis salma*. (Tab. LXXII. fig. 23, ♂.)

*Automolis salma*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 36 (1896)<sup>1</sup>.

*Male.* Primaries and secondaries pale primrose-yellow, the secondaries slightly darker along the inner margin; a small black spot on the inner margin of the primaries close to the anal angle: head, collar, thorax, and tegulæ primrose-yellow; abdomen chrome-yellow, with a large metallic blue spot on the last two segments; antennæ, palpi, and legs black. Expanse  $1\frac{4}{10}$  inch.

*Hab.* PANAMA, Chiriqui (*in mus. Staudinger*<sup>1</sup>).

## ISCHNOGNATHA (I. p. 76).

### 3. *Ischnognatha rutila*.

*Sphinx adscita rutilus*, Cram. Pap. Exot. iv. p. 183, t. 382. fig. B<sup>1</sup>.

*Caryatis rutila*, Hübn. Verz. bek. Schmett. p. 171<sup>2</sup>.

*Automolis rutilus*, Walk. Cat. vii. p. 1637<sup>3</sup>.

*Ischnognatha striata*, Druce, Ann. & Mag. Nat. Hist. (6) xv. p. 45 (1895)<sup>4</sup>.

*Hab.* COSTA RICA<sup>4</sup>, Candelaria Mts. (*Underwood*).—GUIANA, Surinam<sup>1 3</sup>.

#### CRATOPLASTIS (I. p. 76).

##### **Cratoplastis diluta** (I. p. 76).

To the localities given, add:—MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*).

##### **2. Cratoplastis romula.** (Tab. LXXII. fig. 22, ♂.)

*Cratoplastis romula*, Druce, Ann. & Mag. Nat. Hist. (6) xv. p. 45 (1895)<sup>1</sup>.

*Male.* Primaries greyish-black, the veins slightly paler near the base, a large oval semihyaline white spot at the end of the cell, the fringe dark grey; secondaries semihyaline white, broadly bordered with bluish-black at the apex and on the costal, outer, and inner margins: head and anus bright orange; antennæ, thorax, and abdomen greyish-black, the abdomen with a greyish-white line extending from the base almost to the anus; legs greyish-black. Expanse 1½ inch.

*Hab.* COSTA RICA<sup>1</sup>, Candelaria Mts. (*Underwood*).

#### PIONIA (I. p. 76).

##### **Pionia lycoides** (I. p. 76).

To the localities given, add:—MEXICO, Cuesta de Misantla, Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*).

##### **Pionia undulata** (I. p. 77).

To the locality given, add:—MEXICO, Orizaba (*Flohr*), Jalapa (*coll. Schaus*).

##### **Pionia affinis** (I. p. 77).

To the locality given, add:—MEXICO, Coatepec (*coll. Schaus*).

##### **Pionia calopteridia** (I. p. 77).

To the localities given, add:—MEXICO, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*).

##### **Pionia elegans** (I. p. 78).

To the localities given, add:—MEXICO, Orizaba (*Flohr*), Atoyac in Vera Cruz (*H. H. Smith*); COSTA RICA (*mus. Staudinger*).

The specimen from Orizaba is very much larger than any of the others, and is also slightly brighter in colour.

##### **9. Pionia raca.** (Tab. LXXII. fig. 18.)

*Pionia raca*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 37 (July 1896)<sup>1</sup>.

Primaries pale yellowish-brown, without any marking; secondaries hyaline, the costal margin yellowish, the



apex and outer margin slightly edged with black: head, thorax, and tegulæ yellowish-brown; antennæ, palpi, abdomen, and legs black; underside of the thorax and the three basal segments of the abdomen beneath yellowish-brown. Expanse  $1\frac{6}{10}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*<sup>1</sup>).

## BELEMNIA (I. p. 78).

### *Belemnina jovis* (I. p. 78).

To the localities given, add:—MEXICO, Cuesta de Misantla (*M. Trujillo*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

We have received only one specimen from Mexico.

### 2. *Belemnina trötschi*. (Tab. LXXII. figg. 25, ♂; 27, ♀.)

*Belemnina trötschi*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 37 (July 1896)<sup>1</sup>.

*Male*. Primaries deep black, bronze-green at the base, this colour extending outwards to about the middle of the cell, beyond which the wing is crossed from the costal almost to the outer margin above the apex by a wide deep orange-yellow band; secondaries deep black, the base shot with bright metallic blue; the fringes of both wings black; underside as above, but with both wings shot with bright metallic blue, the secondaries with two blue dots beyond the middle: head, antennæ, thorax, collar, and tegulæ deep black, the collar and tegulæ spotted with metallic blue, the thorax with two rather large metallic blue spots at the base; the abdomen dark bronze-green, on the underside bright carmine, the segments on each side edged with metallic blue; legs black.—*Female*. Very similar to the male, but with much more blue on the secondaries. Expanse, ♂  $2\frac{1}{10}$ , ♀  $2\frac{1}{2}$  inches.

*Hab.* COSTA RICA<sup>1</sup>; PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*<sup>1</sup>).

I have named this very fine *Belemnina* after Herr E. Trötsch, who has sent specimens of so many new species to Dr. Staudinger from Chiriqui. The male is from the Volcan de Chiriqui and the female from Costa Rica.

## SUTONOCREA (I. p. 79).

### 2. *Sutonocrea incerta*.

*Malabus incertus*, Walk. Cat. iii. p. 716 (1855)<sup>1</sup>.

*Cretonotus incertus*, Herr.-Schäff. Samml. aussereur. Schmett. p. 72, fig. 503 (1856)<sup>2</sup>.

*Cretonotus lobifer*, Herr.-Schäff. loc. cit. p. 84<sup>3</sup>.

*Automolis reducta*, Walk. Cat. vii. p. 1638 (1856)<sup>4</sup>.

*Hab.* PANAMA, Chiriqui (*ex Staudinger*).—AMAZONS<sup>4</sup>, Pará<sup>1 3</sup>.

Our specimen from Chiriqui is not so highly coloured as Herrich-Schäffer's figure.

## EMPUSA (I. p. 79).

### *Empusa vitrea* (I. p. 79).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*), Orizaba (*coll. Schaus*); GUATEMALA, in the city (*Rodriguez*).

## GALETHALEA (I. p. 80).

**Galethalea confinis** (I. p. 80).

To the localities given, add:—MEXICO, Orizaba (*Flohr*; *Boucard*, in *mus. D.*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).

**2. Galethalea pica.**

*Halesidota pica*, Walk. Cat. iii. p. 743 (1855)<sup>1</sup>.

*Galethalea pica*, Butl. Journ. Linn. Soc., Zool. xii. p. 424 (1876)<sup>2</sup>.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Trötsch*, in *mus. Staudinger*).—BRAZIL, Rio Janeiro<sup>1 2</sup>.

## EPANYCLES (I. p. 80).

**Epanycles obscura** (I. p. 80).

To the localities given, add:—MEXICO, Orizaba, Jalapa (*coll. Schaus*), Teapa in Tabasco (*H. H. Smith*); COSTA RICA, Santa Clara Valley 1200 feet (*Zurcher*).

**Epanycles gigantea** (I. p. 80).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*), Atoyac in Vera Cruz (*Schumann*), Orizaba (*coll. Schaus*).

EPISCEPSIS (to follow the genus *Epanycles*, I. p. 80).

*Episcepsis*, Butler, Illustr. Lep. Het. i. p. 49 (1877).

**1. Episcepsis venata.**

*Episcepsis venata*, Butler, Illustr. Lep. Het. i. p. 49, t. 16. fig. 7 (♀) (1877)<sup>1</sup>.

*Heliura venata*, Schaus, Amer. Lep. part 1, p. 7, t. 1. fig. 20 (♂) (1892)<sup>2</sup>.

*Heliura ælia*, Schaus, Ent. Amer. v. p. 90 (1889)<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Paso de San Juan and Orizaba in Vera Cruz (*Schaus*<sup>2 3</sup>), Teapa in Tabasco (*H. H. Smith*).—AMAZONS, Rio Jutahi<sup>1</sup>.

Our Mexican specimens are almost identical with the type in the National collection.

## EUAGRA (I. p. 81).

**2. Euagra intercisa.**

*Euagra intercisa*, Butl. Cist. Ent. ii. p. 111 (1876)<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*mus. Staudinger*).—VENEZUELA<sup>1</sup>; BOLIVIA.

Dr. Staudinger's specimen from Chiriqui does not differ from others from Bolivia in my own collection.



## MYDROMERA (I. p. 81).

**Mydromera isthmia** (I. p. 81).

*Evagra notochloris*, Boisd. Lép. Guat. p. 87 (1870) <sup>1</sup>.

Boisduval's specimens were from Honduras, whence I have already recorded the species.

## METASTATIA (I. p. 81).

**Metastatia saphira** (I. p. 81).

To the localities given, add :—MEXICO, Coatepec (*coll. Schaus*), Cuesta de Misantla (*M. Trujillo*), Teapa in Tabasco (*H. H. Smith*).

The Mexican specimens are the largest I have seen.

2. **Metastatia ossa**. (Tab. LXXIII. fig. 1.)

*Metastatia ossa*, Druce, P. Z. S. 1893, p. 285 <sup>1</sup>.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).—COLOMBIA <sup>1</sup>;  
GUIANA.

A beautiful species, allied to *M. pampa*, Druce. We figure Dr. Staudinger's specimen from our region.

## PHILOROS (I. p. 81).

**Philoros rubriceps** (I. p. 82).

To the localities given, add :—MEXICO, Jalapa (*M. Trujillo*), Orizaba (*H. J. Elwes*), Atoyac in Vera Cruz (*H. H. Smith*), Coatepec (*Brooks*); COSTA RICA, Candelaria Mts. (*Underwood*).

This species is common in Mexico. The spot on the head varies from red to yellow.

## CTENUCHA (I. p. 82).

**Ctenucha affinis** (I. p. 83). (Tab. LXXIII. fig. 3, ♂.)

We now figure the male of this species.

7. **Ctenucha unicolor**.

*Scepsis* (?) *unicolor*, Feld. & Rogenh. Reise der Novara, Lep. t. 139. fig. 11 <sup>1</sup>.

*Hab.* MEXICO (*Bilimek* <sup>1</sup>).

8. **Ctenucha imitata**.

*Ctenucha imitata*, H. Edwards, Ent. Amer. iii. p. 91 (1887) <sup>1</sup>.

*Hab.* MEXICO, State of Vera Cruz (*Schaus* <sup>1</sup>).

9. **Ctenucha scepsiformis**.

*Ctenucha scepsiformis*, H. Edwards, Ent. Amer. iii. p. 91 (1887) <sup>1</sup>.

*Hab.* MEXICO, State of Vera Cruz (*Schaus* <sup>1</sup>).

10. **Ctenucha azteca.** (Tab. LXXIII. fig. 2.)*Ctenucha azteca*, Schaus, P. Z. S. 1892, p. 278<sup>1</sup>.*Hab.* MEXICO, Durango city (*Becker*), Mexico city (*Schaus*<sup>1</sup>).

We figure the type.

11. **Ctenucha (?) dolens**, sp. n. (Tab. LXXIII. fig. 4.)

Primaries uniformly dull brownish-black; secondaries rather darker, with a greenish shade; the fringe of both wings black; the underside as above: head, antennæ, thorax, and legs black, the tegulæ and the front of the thorax greenish-black. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO (*mus. Staudinger*).

One specimen, not labelled with any exact locality in Mexico.

12. **Ctenucha sanguinaria.***Ctenucha sanguinaria*, Streck. Rep. Chief of Engineers, 1878, App. SS. p. 1858, t. 2. fig. 2<sup>1</sup>.*Hab.* NORTH AMERICA, Rio Blanco<sup>1</sup>.—MEXICO, Las Vigas (*coll. Schaus*).SCEPSIS (to follow the genus *Ctenucha*, I. p. 83).*Ctenucha*, group 3, *Scepsis*, Walker, Cat. ii. p. 285 (1854).*Scepsis*, Packard, Proc. Essex Inst. iv. p. 40 (1864); Stretch, Zygæn. & Bomb. N. Amer. p. 19 (1872).1. **Scepsis salatis.** (Tab. LXXIII. fig. 5.)*Ctenucha salatis*, Boisd. Lép. Guat. p. 83 (1870)<sup>1</sup>.*Hab.* MEXICO, Coatepec (*Brooks*); HONDURAS<sup>1</sup>.

We are indebted to Mons. C. Oberthür for kindly lending us Boisdual's type of this and of the following species. Our figure of *S. salatis* is taken from a Mexican example.

2. **Scepsis pollinia.** (Tab. LXXIII. fig. 8.)*Ctenucha pollinia*, Boisd. Lép. Guat. p. 83 (1870)<sup>1</sup>.*Hab.* MEXICO, Durango city (*Becker*); HONDURAS<sup>1</sup>.

One specimen from Durango city, not differing from the type.

EPIDESMA (to follow the genus *Leucopsumis*, I. p. 83).*Epidesma*, Hübner, Verz. bek. Schmett. p. 176 (1816).1. **Epidesma ursula.***Phalæna Noctua ursula*, Cram. Pap. Exot. iv. p. 107, t. 345. fig. E (1781)<sup>1</sup>.*Hab.* COSTA RICA (*Gabb, in mus. D.*).—GUIANA, Surinam<sup>1</sup>.

One specimen from Costa Rica, not labelled with any exact locality.



## THEAGES (I. p. 83).

**Theages quadricolor** (I. p. 83).

To the localities given, add:—MEXICO, Cordova (*Rümelì*), Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*).

**Theages leucophæa** (I. p. 84).

To the localities given, add:—MEXICO, Jalapa, Orizaba (*coll. Schaus*); COSTA RICA, Candelaria Mts. (*Underwood*).

The specimens from Costa Rica are, like those from Guatemala, very highly coloured.

3. **Theages striata.** (Tab. LXXIII. fig. 9.)

*Theages striata*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 86 (1889) <sup>1</sup>.

Primaries brownish-fawn-colour, streaked with yellowish-white lines from the base to the outer margin, a narrow streak of the same colour crossing the wing from beyond the middle of the costal margin to near the anal angle, from which a rather wide line extends to the outer margin; secondaries dusky hyaline white, shaded with brown at the apex and along the costal margin; the underside as above, but with the markings of the primaries much more indistinct: head, thorax, and abdomen blackish-brown, the two anal segments and the sides of the abdomen almost to the base pale yellow; the underside of the abdomen streaked with dusky white from the base to the anus; the palpi orange at the base, with the tips black; antennæ pale whitish-brown; legs pale brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Coatepec (*Brooks* <sup>1</sup>), Orizaba (*Boucard, in mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).—ECUADOR.

This species is allied to *T. leucophæa*, Walk.

4. **Theages scyton.**

*Sphinx scyton*, Cram. Pap. Exot. ii. p. 5, t. 99. fig. B <sup>1</sup>.

*Empusa* (?) *scyton*, Walk. Cat. iii. p. 645 <sup>2</sup>.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).—GUIANA, Surinam <sup>1 2</sup>.

Cramer's figure of this species is a very poor one: my specimens are rather larger, with the veins blacker.

PSEUDEUCERON (to follow the genus *Theages*, I. p. 84).

*Pseudeuceron*, Möschler, Verh. zool.-bot. Ges. Wien, xxvii. p. 652 (1877).

1. **Pseudeuceron eleuthera.**

*Phalæna (Bombyx) eleuthera*, Cram. Pap. Exot. iv. p. 159, t. 371. fig. A <sup>1</sup>.

*Lymantria* (?) *eleuthera*, Walk. Cat. vii. p. 1742 <sup>2</sup>.

*Pseudeuceron eleuthera*, Möschl. Verh. zool.-bot. Ges. Wien, xxvii. p. 653 <sup>3</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*). — GUIANA, Surinam <sup>1 2 3</sup>, Paramaribo <sup>3</sup>.

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## EUCEREON (I. p. 84).

**Eucereon abdominale** (I. p. 84).

To the localities given, add:—MEXICO, Coatepec (*coll. Schaus*); COSTA RICA, Candelaria Mts. (*Underwood*).

2 (A). **Eucereon amadis**. (Tab. LXXIII. fig. 10.)

*Eucereon amadis*, Schaus, Journ. New York Ent. Soc. iv. p. 133 (Sept. 1896)<sup>1</sup>.

*Hab.* MEXICO (*Mus. Brit.*<sup>1</sup>), Jalapa<sup>1</sup>, Orizaba (*coll. Schaus*), Coatepec (*Brooks*).—COLOMBIA.

We figure the type from Mr. Schaus's collection. This species is closely allied to *E. varium* (Walk.).

**Eucereon myrina** (I. p. 84).

To the locality given, add:—MEXICO, Guadalajara in Jalisco (*Goldsmith, in mus. D.*), Coatepec and Paso de San Juan in Vera Cruz (*coll. Schaus*).

The specimen from Guadalajara is paler and has the spots on the primaries rather smaller than in the Guatemalan type.

**Eucereon setosum** (I. p. 85).

To the localities given, add:—MEXICO, Jalapa (*coll. Schaus*); GUATEMALA, in the city (*Rodriguez*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

4 (A). **Eucereon discolor**.

*Eucerea discolor*, Walk. Cat. vii. p. 1640 (1856)<sup>1</sup>.

*Hab.* MEXICO, Jalapa, Orizaba (*coll. Schaus*).—BRAZIL<sup>1</sup>.

The type of this species is in the Saunders collection at Oxford.

4 (B). **Eucereon sylvius**.

*Sphinx sylvius*, Stoll, Suppl. Cram. Pap. Exot. p. 65, t. 14. figg. 1-5<sup>1</sup>.

*Euchromia sylvius*, Walk. Cat. i. p. 269<sup>2</sup>.

*Eucerea sylvius*, Walk. Cat. vii. p. 1638<sup>3</sup>.

*Hab.* MEXICO<sup>2</sup>, Paso de San Juan in Vera Cruz (*coll. Schaus*); HONDURAS (*Dyson*<sup>2</sup>).—VENEZUELA<sup>2</sup>; GUIANA, Surinam<sup>1 2</sup>; AMAZONS, Santarem<sup>2</sup>.

**Eucereon tripunctatum** (I. p. 85).

To the localities given, add:—MEXICO, Guadalajara in Jalisco (*Goldsmith, in mus. D.*), Jalapa (*M. Trujillo*), Orizaba (*Flohr*); COSTA RICA, Candelaria Mts. (*Underwood*).

**Eucereon myrtusa** (I. p. 85). (Tab. LXXIII. fig. 14.)

To the locality given, add:—MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*).

We now figure a specimen of this species from Jalapa.



**Eucereon roseum** (I. p. 86).

To the localities given, add :—MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*).

**Eucereon pilatii** (I. p. 86).

To the localities given, add :—MEXICO, Jalapa and Coatepec (*coll. Schaus*).

**Eucereon maia** (I. p. 86).

To the localities given, add :—MEXICO, Jalapa (*coll. Schaus*).

**Eucereon arenosum** (I. p. 87).

To the localities given, add :—MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

**Eucereon leria** (I. p. 87).

To the localities given, add :—MEXICO, Jalapa and Orizaba (*coll. Schaus*).

17 (A). **Eucereon aroa**.

*Eucereon aroa*, Schaus, P. Z. S. 1894, p. 229<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*).—VENEZUELA, Aroa<sup>1</sup>.

Mr. Schaus states that this species is closely allied to *E. costulatum* (Herr.-Schäff.).

**Eucereon minutum** (I. p. 87). (Tab. LXXIII. fig. 7, ♂.)

I have now seen three more specimens, two males and a female, of this species from Chiriqui. They were found by Herr E. Trötsch, and are contained in Dr. Staudinger's collection. The sexes are very similar. The type from Bugaba is figured.

21. **Eucereon promathides**. (Tab. LXXIII. fig. 6.)

*Eucereon promathides*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 172 (1894)<sup>1</sup>.

Primaries and secondaries very pale whitish-fawn-colour, the primaries slightly speckled with minute brown scales: head, antennæ, and thorax pale fawn-colour; abdomen red, with a row of small black dots extending from the base to the anus. Expanse 1½ inch.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*<sup>1</sup>).

22. **Eucereon pometina**. (Tab. LXXIII. fig. 11.)

*Eucereon pometina*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 172 (1894)<sup>1</sup>.

Primaries pale fawn-colour, with a small spot on the costal margin and a rather indistinct narrow band crossing the wing from the inner margin beyond the middle to the apex, both darker fawn-colour; secondaries dusky, darker at the apex and along the outer margin: head fawn-colour, the thorax, antennæ, abdomen, and legs pale brown. Expanse 1 inch.

*Hab.* PANAMA, Bugaba 800 to 1500 feet (*Champion*<sup>1</sup>).

23. **Eucereon darantasia**. (Tab. LXXIII. fig. 12.)

*Eucereon darantasia*, Druce, Ann. & Mag. Nat. Hist. (6) xv. p. 45 (1895)<sup>1</sup>.

*Female*. Primaries dark brown, with the veins, a line beyond the cell, and a waved submarginal line pale brown, a whitish spot in the middle of the cell, the fringe dark brown; secondaries dusky semihyaline

from the base to about the middle; the underside of both wings dusky black, almost without markings: head, thorax, abdomen, and legs dark brown; antennæ and palpi black; tegulæ dark brown, edged with chrome-yellow; anus chrome-yellow on the upperside. Expanse 2 inches.

*Hab.* COSTA RICA<sup>1</sup>, Candelaria Mts. (*Underwood*).

24. **Eucereon rububa.** (Tab. LXXIII. fig. 17.)

*Eucereon rububa*, Druce, Ann. & Mag. Nat. Hist. (6) xv. p. 46 (1895)<sup>1</sup>.

*Male.* Primaries dusky white, clouded with dark brown about the middle, at the apex, and along the outer and inner margins; secondaries semihyaline white, clouded with brown at the apex and very slightly along the outer margin: head, antennæ, palpi, thorax, abdomen, and legs black. Expanse 1½ inch.

*Hab.* COSTA RICA<sup>1</sup>, Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Trötsch*, in *mus. Staudinger*).

The specimen from Chiriqui in Dr. Staudinger's collection is a female. It is slightly paler in colour than the type from which our figure is taken.

25. **Eucereon dentatum.**

*Eucereon dentatum*, Schaus, P. Z. S. 1894, p. 229<sup>1</sup>.

*Hab.* MEXICO, Coatepec, Jalapa (*Schaus*<sup>1</sup>).

26. **Eucereon patrona.** (Tab. LXXIII. fig. 13.)

*Eucereon patrona*, Schaus, Journ. New York Ent. Soc. iv. p. 134 (Sept. 1896)<sup>1</sup>.

*Hab.* MEXICO, Orizaba (*Schaus*<sup>1</sup>).—VENEZUELA, Aroa<sup>1</sup>.

We figure the specimen from Orizaba.

27. **Eucereon demonis.** (Tab. LXXIII. fig. 15, ♀.)

*Eucereon demonis*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 38 (July 1896)<sup>1</sup>.

Primaries greyish-black, with indistinct darker black markings, a square spot at the end of the cell and a broken band beyond partly crossing the wing, both hyaline; secondaries hyaline, broadly bordered with glossy bluish-black, the veins black: head, antennæ, thorax, and abdomen black, the latter with white bands on the underside; a spot on each side of the head, one at the base of the abdomen, and two on each side of it, all bright carmine; legs black. Expanse 1¾ inch.

*Hab.* PANAMA, Chiriqui (*Trötsch*, in *mus. Staudinger*<sup>1</sup>).

PHRAGMATOBIA (I. p. 88).

**Phragmatobia albicosta** (I. p. 88). (Tab. LXXIII. fig. 18.)

*Euchaetes fumidus*, H. Edwards, Papilio, iv. p. 61 (1884)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), State of Vera Cruz (*Schaus*<sup>1</sup>).

This species was wrongly identified by me in my first enumeration, but we have since received specimens of it from our region; the localities quoted on p. 88 must be transferred to the following species, *P. antica*.



## 2. *Phragmatobia antica*.

*Halesidota antica*, Walk. Cat. vii. p. 1708 (1856) <sup>1</sup>.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*), Vera Cruz (*coll. Saunders* <sup>1</sup>), Jalapa (*Höge*); NICARAGUA, Chontales (*Belt*).

Closely allied to *P. albicosta*, but differs from it in having the costal margin of the primaries and the anus pale yellow, instead of white.

HYALEUCEREA (to follow the genus *Phragmatobia*, I. p. 88).

*Hyaleucerea*, Butler, Ann. & Mag. Nat. Hist. (4) xv. p. 399 (1875).

### 1. *Hyaleucerea vulnerata*. (Tab. LXXIII. fig. 16, ♀.)

*Hyaleucerea vulnerata*, Butl. Ann. & Mag. Nat. Hist. (4) xv. p. 399 <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).  
—BRAZIL, Espiritu Santo <sup>1</sup>.

We figure a female from Jalapa.

### 2. *Hyaleucerea erythrotelus*.

*Glaucopis erythrotelus*, Walk. Cat. i. p. 147 (1854) <sup>1</sup>.

*Hyaleucerea erythrotelus*, Butl. Illustr. Lep. Het. i. p. 51, t. 7. fig. 13 <sup>2</sup>.

*Hab.* HONDURAS (*mus. Druce*).—AMAZONS, Pará <sup>1 2</sup>.

THYSANOPRYMNA (to precede the genus *Gippius*, I. p. 88).

*Thysanoprymna*, Butler, Ann. & Mag. Nat. Hist. (4) xv. p. 400 (1875) <sup>1</sup>.

### 1. *Thysanoprymna superba*. (Tab. LXXIII. fig. 19.)

*Aclytia superba*, Schaus, Ent. Amer. v. p. 89 (1889) <sup>1</sup>.

*Hab.* MEXICO, Coatepec <sup>1</sup>, Jalapa and Paso de San Juan in Vera Cruz (*coll. Schaus*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

Allied to *T. cepiana*, Druce, from Venezuela, but quite distinct. We figure one of Mr. Schaus's specimens.

GIPPIUS (I. p. 88).

### *Gippius sumptuosus* (I. p. 88).

To the Mexican locality given, add:—Chilpancingo in Guerrero 4600 feet (*H. H. Smith*), Paso de San Juan in Vera Cruz (*coll. Schaus*).

Fresh specimens are much blacker than the one figured.

EVIUS (I. p. 88).

### 3. *Evius walkeri*. (Tab. LXXIII. fig. 21.)

*Evius walkeri*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 86 (1889) <sup>1</sup>.

Primaries and secondaries pale yellow, the primaries broadly bordered with white at the apex and outer

margin, and with a series of black streaks crossing the white between the veins: head, thorax, and abdomen pale yellow; the antennæ black. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Taboga I. (*J. J. Walker*<sup>1</sup>).

A pretty little species, very distinct from any other known to me, somewhat resembling *Mapeta xanthomelas*, Walk.

#### 4. *Evius auro-coccineus*.

*Evius auro-coccineus*, Walk. Cat. iii. p. 640 (1855)<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—AMAZONS, Pará<sup>1</sup>.

One specimen from Chiriqui, agreeing with others from the Amazons in my own collection.

IDALUS (I. p. 89).

#### *Idalus crinis* (I. p. 89).

To the locality given, add:—MEXICO, Orizaba (*Boucard, in mus. D.*); GUATEMALA, in the city (*Rodriguez*).

#### 3. *Idalus herois*. (Tab. LXXIII. fig. 20.)

*Idalus herois*, Schaus, Ent. Amer. v. p. 190 (♂ ♀) (1889)<sup>1</sup>.

*Hab.* MEXICO, Coatepec<sup>1</sup>, Jalapa (*coll. Schaus, Brooks*), Orizaba (*Boucard, in mus. D.*).

Very closely allied to *I. critheis*, Druce. A specimen from Coatepec is figured.

#### 4. *Idalus dares*. (Tab. LXXIII. fig. 23.)

*Idalus dares*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 354 (1894)<sup>1</sup>.

Primaries and secondaries semihyaline white; the primaries streaked with black at the base and on the costal margin beyond the cell, with four rather long black streaks edged with fawn-colour below the cell, the fourth on the inner margin rather above the first three streaks, and two black spots on the outer margin nearest the apex: head, thorax, and tegulæ yellowish-white, the thorax with four very distinct black spots near the middle; abdomen above red, the sides, under surface, anus, and a row of spots down the middle white; legs white, spotted with black. Expanse  $1\frac{3}{4}$  inch.

*Hab.* COSTA RICA, Santa Clara Valley 1200 feet (*Zurcher*<sup>1</sup>).

Allied to *I. crinis*, Druce, but quite distinct.

#### 5. *Idalus alba*. (Tab. LXXIII. fig. 22.)

*Idalus alba*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 172 (1894)<sup>1</sup>.

Primaries and secondaries pure white: head, thorax, abdomen, and legs white; antennæ white above, black beneath. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*<sup>1</sup>).

One specimen.

#### 6. *Idalus erythronota*.

*Phægoptera erythronota*, Herr.-Schäff. Samml. ausscreur. Schmett. p. 72, fig. 58 (1853)<sup>1</sup>.

*Trichromia erythronota*, Herr.-Schäff. loc. cit. p. 78<sup>2</sup>.

*Amerila erythronota*, Walk. Cat. iii. p. 727 (1855)<sup>1</sup>.



*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*).—COLOMBIA ; VENEZUELA<sup>2 3</sup> ; BRAZIL<sup>3</sup>, Rio Janeiro<sup>3</sup>.

The single specimen received from Costa Rica is in very poor condition ; it is smaller than those from Colombia in my own collection.

#### NERITOS (I. p. 90).

##### **Neritos flavo-roseus** (I. p. 90). (Tab. LXXIII. fig. 25.)

To the locality given, add :—MEXICO, Temax in N. Yucatan (*Gaumer*).

We now give a figure of this species from a specimen received from Yucatan.

##### 1 (A). **Neritos psamas.**

*Sphinx psamas*, Cram. Pap. Exot. iii. p. 72, t. 234. fig. G<sup>1</sup>.

*Erius psamas*, Walk. Cat. iii. p. 641<sup>2</sup>.

*Neritos psamas*, Butl. Journ. Linn. Soc., Zool. xii. p. 431<sup>3</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—GUIANA, Surinam<sup>1 2</sup>, Berbice<sup>1 2</sup> ; ECUADOR.

The Chiriqui specimen agrees well with others from British Guiana and Ecuador in my own collection.

##### **Neritos asana** (I. p. 90).

To the localities given, add :—MEXICO, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*).

##### **Neritos amastris** (I. p. 90). (Tab. LXXIII. fig. 26, ♀.)

To the localities given, add :—MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*) ; COSTA RICA, Candelaria Mts. (*Underwood*).

We now give a figure of the female, which chiefly differs from the male in having a large pale yellow V-shaped mark on the costal margin of the primaries near the apex.

##### 6. **Neritos cotes.** (Tab. LXXIII. fig. 24.)

*Neritos cotes*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 38 (July 1896)<sup>1</sup>.

Primaries greyish-brown, with a large U-shaped citron-yellow mark on the costal margin, and a small citron-yellow mark on the outer margin, the fringe yellow ; secondaries chrome-yellow : head yellow ; palpi and antennæ greyish-brown ; collar, tegulæ, and thorax brown ; abdomen and legs chrome-yellow.

Expanse  $1\frac{4}{10}$  inch.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*<sup>1</sup>).

Allied to *N. flavo-roseus*, Walk.

##### 7. **Neritos tipolis.** (Tab. LXXIII. fig. 27.)

*Neritos tipolis*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 39 (July 1896)<sup>1</sup>.

Primaries pale purplish-brown, crossed beyond the middle by a wide primrose-yellow band, which nearly

surrounds a large purplish-brown spot near the apex; secondaries semihyaline yellow, darker at the apex and on the outer margin; the fringe of both wings yellow; the underside of the primaries purplish-black: head, abdomen, and legs yellow, the collar, tegulæ, and thorax pale purplish-brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* GUATEMALA (*Conradt, in mus. Staudinger*<sup>1</sup>).

### 8. *Neritos samos*. (Tab. LXXIV. fig. 1.)

*Neritos samos*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 39 (July 1896)<sup>1</sup>.

*Male*. Primaries very similar to those of *N. psamas* (Cram.), but much redder in colour, the yellow band crossing the wing narrower, and not surrounding the apical spot as it does in *N. psamas*; secondaries pale chrome-yellow: head and thorax reddish-brown; antennæ pale brown; abdomen bright red above, pale yellow beneath; legs pale yellow. Expanse  $1\frac{1}{4}$  inch.

*Hab.* BRITISH HONDURAS (*mus. Druce*<sup>1</sup>).

SCAPTIVS (to follow the genus *Neritos*, I. p. 90).

*Scaptiv*, Walker, Cat. iii. p. 642 (1855).

### 1. *Scaptiv ditissimus*. (Tab. LXXIV. fig. 2.)

*Scaptiv ditissimus*, Walk. Cat. iii. p. 643<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—AMAZONS, Ega<sup>1</sup>.

RHIPHA (to precede the genus *Elysiv*, I. p. 91).

*Euchromia*, group 31, *Rhipha*, Walker, Cat. i. p. 273 (1854).

*Apyre*, Walker, Cat. ii. p. 490 (1854); vii. p. 1681 (1856).

*Arara*, Walker, Cat. iii. p. 641 (1855).

*Rhipha*, Butler, Journ. Linn. Soc., Zool. xii. p. 423, t. 29. fig. 21 (necuration) (1876).

### 1. *Rhipha vittipes*. (Tab. LXXIV. fig. 4.)

*Arara vittipes*, Walk. Cat. iii. p. 642<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—BRAZIL<sup>1</sup>.

Dr. Staudinger's specimen now figured agrees perfectly with Walker's type in the National Museum.

AMMALO (I. p. 91).

### *Ammalo chrysogaster* (I. p. 91).

To the localities given, add:—MEXICO, Orizaba (*Boucard, in mus. D.*), Coatepec (*Brooks*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, near the city (*J. J. Walker*).

I have now before me a large series of this species, showing considerable variation in size and colour.

### 2. *Ammalo helops*.

*Phalæna Bombyx helops*, Cram. Pap. Exot. i. p. 113, t. 72. fig. C<sup>1</sup>.

*Ammalo helops*, Walk. Cat. iii. p. 623<sup>2</sup>.

*Halesidota megapyrrha*, Walk. Cat. xxxi. p. 308<sup>3</sup>.



*Hab.* MEXICO, Jalapa, Orizaba (*coll. Schaus*).—GUIANA, Surinam <sup>1 2</sup>.

The only locality given by Walker <sup>3</sup> for *Halesidota megapyrrha* is "North America."

3. **Ammalo thraillkilli.** (Tab. LXXIV. fig. 21.)

*Ammalo thraillkilli*, Schaus, P. Z. S. 1892, p. 280 <sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*Schaus* <sup>1</sup>).

The type is figured.

MAZÆRAS (I. p. 91).

**Mazæras ipsea** (I. p. 91).

*Mazæras ipsea*, Druce, *antea*, i. p. 91 (part.).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*), Misantla (*F. D. G.*); GUATEMALA, in the city (*Rodriguez*).

The worn specimen captured by Mr. Champion in Chiriqui proves to belong to a distinct species, which is described on p. 370 under the name of *Amasia pyrgion*.

AMAXIA (to follow the genus *Mazæras*, I. p. 92).

*Amasia*, Walker, Cat. iii. p. 721 (1855).

1. **Amasia pyga.**

*Amasia pyga*, Schaus, P. Z. S. 1892, p. 279 <sup>1</sup>; Illustr. Amer. Lep. p. 9, t. 1. fig. 27 <sup>2</sup>.

*Hab.* HONDURAS (*Wittkugel, in mus. Staudinger*); COSTA RICA, Candelaria Mts. (*Underwood*).—BRAZIL, Rio Janeiro <sup>1 2</sup>.

2. **Amasia juvenis.** (Tab. LXXIV. fig. 5.)

*Amasia juvenis*, Schaus, Journ. New York Ent. Soc. iv. p. 135 (Sept. 1896) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*Schaus* <sup>1</sup>), Orizaba (*Boucard, in mus. D.*).

We figure a specimen from Orizaba.

3. **Amasia dyuna.**

*Amasia dyuna*, Schaus, Journ. New York Ent. Soc. iv. p. 135 (Sept. 1896) <sup>1</sup>.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*).—BRAZIL, São Paulo <sup>1</sup>.

We figure the Costa Rica specimen, which agrees well with Mr. Schaus's type.

4. **Amasia creon**, sp. n. (Tab. LXXIV. fig. 6.)

*Male*. Primaries pale citron-yellow, with the basal half and a large rounded spot at the apex reddish-brown, a marginal and submarginal row of minute reddish dots extending from the apex to the anal angle, the costal margin yellow at the base, a white spot on the inner margin about the middle; secondaries creamy-white, shaded with pink from the middle to the anal angle and inner margin; the fringe of the primaries yellow, that of the secondaries white, excepting at the anal angle, where it is pink: head, collar, and front of thorax pale citron-yellow, the rest of the thorax and the abdomen above reddish-brown, creamy-white beneath, the tegulae reddish-brown, the antennae pale brown, the legs creamy-white. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

One specimen.

5. **Amaxia pyrgion**, sp. n. (Tab. LXXIV. fig. 7.)

*Male*. Primaries pale citron-yellow, edged with reddish-brown along the costal margin, the basal portion from the costal to the inner margin reddish-brown, mottled with rather indistinct red and yellow spots, a broken brown band crossing the wing from the apex nearly to the inner margin, the band becoming wider at the apex, the fringe yellow; secondaries yellowish-white, shaded with pink and smoky-black on the inner margin and at the apex, the fringe pinkish-white: head, thorax, and tegulae citron-yellow, the antennae brown, the abdomen brown, with some bright red hairs at the base, the underside of the thorax and of the abdomen and the legs yellowish-white. Expanse  $1\frac{6}{10}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 8000 feet (*Champion*).

This species was incorrectly included under *Mazæras ipsea*, Druce, anteà, i. p. 91; but I have now seen a considerable number of that species and find that it is distinct.

CASTRICA (to follow the genus *Amaxia* in Vol. I.).

*Castrica*, Schaus, Journ. New York Ent. Soc. iv. p. 136 (Sept. 1896).

This genus is allied to *Symphlebia*, Felder.

1. **Castrica oweni**. (Tab. LXXIV. fig. 13.)

*Castrica oweni*, Schaus, Journ. New York Ent. Soc. iv. p. 136 (Sept. 1896)<sup>1</sup>.

*Hab.* COSTA RICA.—VENEZUELA, Aroa (*Schaus*<sup>1</sup>).

The type is figured.

ZATREPHES (to precede the genus *Halisidota*, I. p. 92).

*Zatrephes*, Hübner, Verz. bek. Schmett. p. 171 (1816).

1. **Zatrephes philobia**. (Tab. LXXIV. fig. 8.)

*Zatrephes philobia*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 88 (1889)<sup>1</sup>.

Primaries golden-straw-colour, irrorated with brown dots; a >-shaped line near the base, above the point of which is a round silver spot and beyond it a large silver patch, much the same as in *Z. traili*, Butl., the silver patch surrounded with darker brown; a curved narrow submarginal line crosses the wing from the costal to the inner margin, the fringe dark brown; secondaries creamy-white, dusky along the outer margin from the base to near the anal angle, the fringe yellowish-white: head, thorax, and abdomen pale straw-colour. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Omilteme in Guerrero 8000 feet (*H. H. Smith*<sup>1</sup>), Jalapa (*Höge*<sup>1</sup>).

This very beautiful species is most nearly allied to *Z. traili*, Butl., from the Amazons.

2. **Zatrephes (?) pronapides**. (Tab. LXXIV. fig. 3.)

*Zatrephes (?) pronapides*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 173 (1894)<sup>1</sup>.

Primaries pale fawn-colour, thickly marked with cream-coloured dots at the base and on the costal margin near the apex; secondaries pale yellow, the apex and a short streak near the anal angle fawn-colour: head and collar cream-colour, the thorax fawn-colour, the abdomen pale yellow, the antennae brown, the legs yellow and brown. Expanse  $1\frac{3}{10}$  inch.

*Hab.* PANAMA, Bugaba (*Champion*<sup>1</sup>).

One specimen.



## HALISIDOTA (I. p. 92).

**Halisidota cinctipes** (I. p. 92).

To the localities given, add:—MEXICO, Tonalapa in Guerrero (*H. H. Smith*), Coatepec (*Brooks*), Orizaba (*Boucard, in mus. D.*), Temax in North Yucatan (*Gaumer*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

2 (A). **Halisidota interlineata**.

*Halesidota interlineata*, Walk. Cat. iii. p. 739 (1855) <sup>1</sup>.

*Arctia (Halesidota) interlineata*, Herr.-Schäff. Samml. aussereur. Schmett. p. 71, fig. 285 (1850–58) <sup>2</sup>.

*Lophocampa interlineata*, Kirby, Cat. Lep. Het. i. p. 208 <sup>3</sup>.

*Phegoptera jucunda*, Herr.-Schäff. loc. cit. p. 81 <sup>4</sup>.

*Hab.* MEXICO, Jalapa, Orizaba (*coll. Schaus*); COSTA RICA, Candelaria Mts. (*Underwood*).—BRAZIL <sup>1 2 3</sup>.

2 (B). **Halisidota labaca**. (Tab. LXXIV. fig. 9.)

*Halisidota labaca*, Druce, Ann. & Mag. Nat. Hist. (6) v. p. 214 (1890) <sup>1</sup>.

Primaries pale brownish-yellow, with a small orange-coloured spot close to the base, three large spots along the costal margin, a large elongated patch on the outer margin, and two rather broad streaks on the inner margin partly crossing the wing towards the middle, all pale brown; secondaries pale yellowish-white, partly hyaline near the base; the underside of the primaries as above, but with all the markings more indistinct: head and thorax pale brownish-yellow; the abdomen above orange, the anus and the underside whitish; the legs and antennæ orange-brown. Expanse  $2\frac{1}{2}$  inches.

*Hab.* MEXICO, State of Jalisco (*Richardson* <sup>1</sup>).

A very distinct species, but nearest *H. cinctipes*, Grote.

**Halisidota atra** (I. p. 92).

To the locality given, add:—MEXICO, Orizaba (*coll. Schaus*).

**Halisidota caryæ** (I. p. 92).

The Guatemalan specimen referred by me to this species belongs to No. 13, *H. propinqua*, H. Edw., which is probably a southern form of *H. caryæ*. The latter name must be erased from our list.

**Halisidota albiguttata** (I. p. 93).

To the locality given, add:—MEXICO, Las Vigas (*coll. Schaus*).

**Halisidota piperita** (I. p. 93).

To the locality given, add:—PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

**Halisidota strigulosa** (I. p. 93).

To the localities given, add:—MEXICO, Guadalajara in Jalisco (*Goldsmith, in mus. D.*), Jalapa, Orizaba (*coll. Schaus*), Cuesta de Misantla (*M. Trujillo*).

7 (A). *Halisidota margona*.

*Halisidota margona*, Schaus, Journ. New York Ent. Soc. iv. p. 139 (Sept. 1896) <sup>1</sup>.

*Hab.* MEXICO, Jalapa, Orizaba (*Schaus* <sup>1</sup>).

Allied to *H. strigulosa*, Walk.

7 (B). *Halisidota cedon*, sp. n. (Tab. LXXIV. fig. 11.)

Primaries very similar to those of *H. strigulosa*, but darker yellow, and with all the spots and markings much browner; secondaries dark blackish-brown, paler on the inner margin and at the anal angle, the fringe pale yellowish-brown; the underside of both wings pale yellowish-white, that of the primaries brownish along the costal margin and in the middle: head, antennæ, and thorax yellowish-brown; abdomen blackish-brown, with the four anal segments yellowish; the legs and the underside of the thorax and abdomen yellowish-white. Expanse 2 inches.

*Hab.* PANAMA, Chiriqui (*Trötsch*, in *mus. Staudinger*).

Allied to *H. strigulosa*, Walk., but differs from all the other species of the genus known to me in having blackish-brown secondaries.

7 (C). *Halisidota lurida*.

*Euhalisidota lurida*, H. Edwards, Ent. Amer. iii. p. 91 (1887) <sup>1</sup>.

*Hab.* MEXICO, State of Vera Cruz (*Schaus* <sup>1</sup>), Jalapa (*M. Trujillo*), Orizaba (*Boucard*, in *mus. D.*).

*Halisidota cadavessa* (I. p. 93).

To the localities given, add:—MEXICO, Guadalajara in Jalisco (*Goldsmith*, in *mus. D.*), Jalapa, Omealca (*M. Trujillo*), Atoyac (*H. H. Smith*); COSTA RICA, Candelaria Mts. (*Underwood*).

8 (A). *Halisidota jalapa*. (Tab. LXXIV. fig. 12.)

*Halisidota jalapa*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 173 (1894) <sup>1</sup>.

Primaries brownish-fawn-colour, with a pinkish tinge at the apex and along the outer margin; secondaries semihyaline yellow: head, collar, and abdomen yellow, the thorax and tegulæ brown, the antennæ black. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

One specimen.

8 (B). *Halisidota* (?) *eurygania*, sp. n. (Tab. LXXIV. fig. 14.)

Primaries and secondaries dark reddish-brown, the secondaries slightly paler close to the base, the primaries crossed from the costal to the inner margin by two fine black lines—the first near the base, the second beyond the middle,—the fringe reddish-brown; underside as above, but without the black lines on the primaries: head and tegulæ reddish-brown, the antennæ, thorax, and legs dark brown; the abdomen dark brown above, reddish-brown beneath. Expanse  $1\frac{1}{4}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch*, in *mus. Staudinger*).

One specimen.



9. **Halisidota niveigutta.**

*Halesidota niveigutta*, Walk. Cat. vii. p. 1709 (1856)<sup>1</sup>.

*Halisidota seruba*, antea, i. p. 93 (nec Herr.-Schäff.).

To the localities given, add:—MEXICO, Dos Arroyos in Guerrero, Teapa in Tabasco (*H. H. Smith*), Coatepec (*coll. Schaus*).—COLOMBIA<sup>1</sup>; BRAZIL<sup>1</sup>.

Mr. Schaus has lately founded a genus, *Thalesa*, for *H. seruba*, Herr.-Schäff., and states that it has a different neuration from that of *H. niveigutta*\*.

9 (A). **Halisidota laroipa.**

*Halisidota laroipa*, Druce, P. Z. S. 1893, p. 288<sup>1</sup>.

*Hab.* PANAMA, Bugaba 800 to 1500 feet, Volcan de Chiriqui 4000 feet (*Champion*).—ECUADOR, Sarayacu<sup>1</sup>; BRAZIL<sup>1</sup>.

The Panama specimens are almost identical with those from Sarayacu in my own collection.

**Halisidota bicolor** (I. p. 93).

Of this species we have received a specimen from Mexico city (*Höge*).

*H. bicolor* is closely allied to *H. caryæ*, Harris.

12. **Halisidota minima.**

*Halesidota minima*, Neum. Papilio, iii. p. 138 (1883)<sup>1</sup>.

*Halisidota armillata*, H. Edwards, antea, i. p. 94<sup>2</sup>.

*Euhalisidota agelia*, Druce, Ann. & Mag. Nat. Hist. (6) v. p. 214 (1890)<sup>3</sup>.

To the locality given, add:—NORTH AMERICA, Arizona<sup>1</sup>.—MEXICO, State of Jalisco (*Richardson*<sup>3</sup>, *M. Trujillo*); GUATEMALA, in the city (*Rodriguez*).

This species varies to a great extent: the specimen described under the name of *Euhalisidota agelia* is very pale, almost white, with all the markings very faint; others have the markings of the primaries quite dark brown, and in the female the secondaries are broadly bordered with brown.

12 (A). **Halisidota semirufa.** (Tab. LXXIV. fig. 10.)

*Halesidota semirufa*, Walk. Cat. vii. p. 1708 (1856)<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—AMAZONS, Pará<sup>1</sup>.

The type of this species is in the Saunders collection at Oxford. We figure Dr. Staudinger's specimen.

12 (B). **Halisidota pectina.**

*Halisidota pectina*, Schaus, Journ. New York Ent. Soc. iv. p. 139 (Sept. 1896)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*Schaus*<sup>1</sup>, *Höge*), Orizaba (*coll. Schaus*), Coatepec (*Brooks*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

\* Cf. Journ. New York Ent. Soc. iv. p. 136 (Sept. 1896).

12 (c). **Halisidota falacra**, var. ?

*Halisidota falacra*, Dogn. Bull. Soc. Ent. Fr. 1891, p. clxxv<sup>1</sup>; Lép. de Loja, Equat. p. 85, t. 8. fig. 15<sup>2</sup>.

*Hab.* MEXICO, Orizaba (*coll. Schaus*).—ECUADOR, Sarayacu and Loja<sup>1 2</sup>.

12 (D). **Halisidota ambigua**.

*Halesidota ambigua*, Stretch, Proc. Davenport Acad. Sci. ii. p. 274, t. 9. fig. 7 (1878)<sup>1</sup>.

*Seirarctia bolteri*, H. Edwards, Papilio, iv. p. 121 (1884)<sup>2</sup>.

*Halesidota* (?) *syracosia*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 87 (1889)<sup>3</sup>.

*Hab.* NORTH AMERICA, Colorado<sup>1</sup>, New Mexico<sup>2</sup>.—MEXICO, Omilteme in Guerrero 8000 feet (*H. H. Smith*<sup>3</sup>); GUATEMALA, in the city (*Rodriguez*).

One specimen, a female, was taken by Mr. Smith at Omilteme, and we have since received a male from Guatemala city, the latter being in very poor condition.

**Halisidota propinqua** (I. p. 94).

*Halisidota caryæ*, antea, i. p. 92 (nec Harris).

To the locality given, add:—MEXICO, Jalapa (*coll. Schaus, M. Trujillo*), Orizaba (*Boucard, in mus. D.*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

The Guatemalan specimen referred to *H. caryæ* belongs, as already stated, to this species.

## PHÆGOPTERA (I. p. 94).

**Phægoptera ochraceator** (I. p. 95).

To the localities given, add:—MEXICO, Cuesta de Misantla (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*), Jalapa (*coll. Schaus*).

**Phægoptera aconia** (I. p. 95).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

We have received numerous specimens of this species from the Candelaria Mountains.

**Phægoptera cornea** (I. p. 95).

To the localities given, add:—MEXICO, Guadalajara in Jalisco (*Goldsmith, in mus. D.*), Mexico city (*Flohr*), Orizaba (*Boucard, in mus. D.*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

5 (A). **Phægoptera daraba**. (Tab. LXXIV. fig. 15.)

*Phægoptera daraba*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 173 (1894)<sup>1</sup>.

Primaries hyaline, the costal, outer, and inner margins edged with yellowish-fawn-colour, three very indistinct brown bands crossing the wing from the costal to the inner margin, the fringo brownish-yellow:



secondaries hyaline, yellowish-fawn-colour on the outer margin near the apex, the inner margin and anal angle shaded with bright reddish-pink: head and thorax yellowish-fawn-colour, the antennæ brown; abdomen bright red, the anus yellow; a small black spot on the tegulæ. Expanse 2 inches.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*<sup>1</sup>), Jalapa (*M. Trujillo*<sup>1</sup>).

We figure a specimen from Orizaba, whence we have received a good series. A female in Mr. Schaus's collection differs from the types in having the bands on the primaries blackish-brown.

5 (B). **Phægoptera rhoda.** (Tab. LXXIV. fig. 17.)

*Phægoptera rhoda*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 173 (1894)<sup>1</sup>.

Primaries hyaline, the costal, outer, and inner margins shaded with pale brown, a submarginal row of indistinct brown spots extending from the apex to the anal angle, the fringo pale brown; secondaries hyaline, slightly shaded with pink at the anal angle: head, antennæ, and thorax pale greyish-brown; abdomen dull red, the anus yellowish. Expanse  $2\frac{1}{4}$  inches.

*Hab.* GUATEMALA, in the city (*Rodriguez*<sup>1</sup>).

This species differs from *P. daraba* in having the head and thorax dull brown, instead of yellow.

**Phægoptera alba** (I. p. 95).

To the locality given, add:—MEXICO, Real del Monte in Hidalgo (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*); GUATEMALA, in the city (*Rodriguez*).

6 (A). **Phægoptera hyalina.** (Tab. LXXIV. fig. 16.)

*Phægoptera hyalina*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 87 (1889)<sup>1</sup>.

Primaries and secondaries entirely hyaline, the veins slightly whitish: head and thorax creamy-white, the abdomen yellow, with the anus and underside white, the antennæ yellow, the legs white. Expanse  $2\frac{1}{2}$  inches.

*Hab.* MEXICO, Sierra de las Aguas Escondidas in Guerrero 7000 feet (*H. H. Smith*<sup>1</sup>).

Allied to *P. cornea*, Herr.-Schäff., and *P. alba*, Druce.

**Phægoptera superba** (I. p. 95).

To the locality given, add:—MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood*).

We have received numerous specimens of this species from Costa Rica, showing some variation in the form of the dark bands crossing the primaries.

8. **Phægoptera proba.** (Tab. LXXIV. fig. 20.)

*Phægoptera proba*, Schaus, P. Z. S. 1892, p. 281<sup>1</sup>.

*Hab.* MEXICO, Guadalajara in Jalisco (*Goldsmith, in mus. D.*), Paso de San Juan in Vera Cruz and Oaxaca (*coll. Schaus*<sup>1</sup>); HONDURAS (*Wittkugel, in mus. Staudinger*).

This insect closely resembles *Ammalo chrysogaster* (Walk.).

9. **Phægoptera masoni.** (Tab. LXXIV. fig. 19.)

*Phægoptera masoni*, Schaus, Ent. News, 1895, p. 29<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Mason*<sup>1</sup>).

Mr. Schaus has kindly lent us a drawing of the type of this fine species for figuring.

10. **Phægoptera triphyllia.** (Tab. LXXIV. fig. 18.)

*Phægoptera triphyllia*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 40 (July 1896)<sup>1</sup>.

*Female.* Primaries and secondaries dull smoky-brown, with the veins black: head, collar, thorax, and tegulæ bright orange-yellow, the head and thorax black beneath, the tegulæ tipped and edged with brown on the outer side; the antennæ, palpi, and legs black: the abdomen above deep black, except the four anal segments, which are bright orange-yellow, and with a row of bright orange-yellow spots on each side extending from the base to the anus, the underside entirely black. Expanse 3 inches.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*<sup>1</sup>).

This species is allied to *Lophocampa humosa*, Dogn., from Ecuador, from which it may be distinguished by the underside of the head and thorax being black, instead of orange-yellow, and by the abdomen having a row of orange-yellow spots on each side; the base of the abdomen is black, instead of yellow, and the four anal segments are yellow, whereas in *L. humosa* only three are yellow. *Lophocampa humosa*, Dogn., should be placed in the genus *Phægoptera*.

ECPANTHERIA (I. p. 96).

**Ecpantheria caudata** (I. p. 96).

To the locality given, add:—MEXICO, Mexico city (*Höge*); COSTA RICA, Candelaria Mts. (*Underwood*).

2 (A). **Ecpantheria orbiculata.**

*Ecpantheria orbiculata*, Oberth. Études d'Ent. vi. p. 108, t. 14. fig. 7 (1881)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).—BRAZIL<sup>1</sup>.

Identified by Mr. Schaus.

**Ecpantheria trebula** (I. p. 97). (Tab. LXXV. fig. 1, ♀.)

*Female.* Primaries from the apex to about the middle yellowish-white and from the middle to the base white, crossed from the costal to the inner margin by black bands and spots very similar to those on the wings of the male, but considerably larger; secondaries black, with some yellow spots round the outer margin, for the rest very similar to those of the male. Expanse 2½ inches.

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*), Coatepec (*Brooks*), Orizaba (*Boucard, in mus. D.*).

The original description was taken from a male from Guatemala, that of the female being now added from the Mexican specimens since received. One of the latter, from Coatepec, is now figured.



**Ecpantheria leucarctioides** (I. p. 97).

*Ecpantheria leucarctioides*, Grote & Robins. Ann. Lyc. New York, viii. p. 369, t. 14. figg. 3 (♂), 4 (♀) (1867)<sup>1</sup>.

To the Mexican locality given, add :—Jalapa and Orizaba (*coll. Schaus*), Mirador<sup>1</sup>.

The reference to Grote and Robinson's description and figures was accidentally omitted on p. 97.

**Ecpantheria extrema** (I. p. 97).

To the localities given, add :—MEXICO, Jalapa (*coll. Schaus*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

**Ecpantheria cotyora** (I. p. 97).

To the localities given, add :—MEXICO (*coll. Schaus*).

Mr. Schaus's specimens are not labelled with any exact locality.

7 (A). **Ecpantheria nemophila**.

*Ecpantheria nemophila*, Herr.-Schäff. Samml. aussereur. Schmett. p. 71, fig. 60 (1850–58)<sup>1</sup>.

*Phagoptera nemophila*, Herr.-Schäff. loc. cit. p. 78<sup>2</sup>.

*Halesidota nemophila*, Walk. Cat. iii. p. 743<sup>3</sup>.

*Ambryllis neurophylla*, Walk. Cat. vii. p. 1710<sup>4</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—VENEZUELA<sup>1 2 4</sup>.

A single worn specimen from Chiriqui is probably referable to this species. It is rather more yellow in colour and not quite so heavily marked with black spots as Herrich-Schäffer's figure.

## ARACHNIS (I. p. 98).

**Arachnis aulæa** (I. p. 98).

*Arachnis aulæa*, Ottolengui, Ent. News, 1896, pp. 126–128, t. 4. figg. 1 (♂), 2 (♀).

To the localities given, add :—MEXICO, Orizaba (*Boucard, in mus. D.*), Coatepec (*Brooks*); GUATEMALA, in the city (*Rodriguez*).

Dr. Ottolengui (*op. cit.*) has figured both sexes of this and other species of the genus in the 'Entomological News' for 1896; he also describes and figures a new species of *Arachnis*, under the name of *A. maia*, from Las Vegas, "Mexico," and Colorado. As the first-mentioned locality is probably in New Mexico, the insect is not numbered in our list.

2 (A). **Arachnis pompeia**. (Tab. LXXV. figg. 2, ♂; 3, ♀.)

*Arachnis pompeia*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 174 (1894)<sup>1</sup>.

*Male*. Allied and similar to *A. aulæa*, but generally darker, with the white markings on the primaries much smaller; the secondaries nearly black, with the red markings very narrow: head and thorax black, the head yellow at the sides; abdomen black, red at the base, with some yellow spots on the last two or three segments.—*Female*. Very similar to the male, but considerably larger with the secondaries almost entirely black. Expanse, ♂ 1¾, ♀ 2¼ inches.

*Hab.* MEXICO, near Durango city (*Becker*<sup>1</sup>)

In this species the primaries are shorter and more pointed than in *A. aulæa*.

3 (A). **Arachnis zuni.** (Tab. LXXV. figg. 5, ♂; 8, ♀.)

*Arachnis zuni*, Neum. Ent. Amer. vi. p. 173 (1890)<sup>1</sup>.

*Hab.* NORTH AMERICA, Las Vegas in New Mexico<sup>1</sup>.—MEXICO, Durango city (*Becker*).

We figure a male and female from Durango city.

**Arachnis confusa** (I. p. 99). (Tab. LXXV. fig. 7.)

To the locality given, add:—MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*); GUATEMALA, in the city (*Rodriguez*).

The single worn specimen from Guatemala is probably a male. It differs from the female in having no marking on the secondaries, and is also considerably smaller. The type is now figured.

5. **Arachnis suffusa.** (Tab. LXXV. fig. 11, ♀.)

*Arachnis suffusa*, Schaus, Ent. Amer. v. p. 190 (♂ ♀) (1889)<sup>1</sup>.

*Hab.* MEXICO, Guadalajara in Jalisco (*Goldsmith, in mus. D.*), Cuernavaca in Morelos (*H. H. Smith*), Rinconada in Vera Cruz (*Schaus*<sup>1</sup>).

A female from Rinconada is figured. The insect was reared from the larva by Mr. Schaus.

6. **Arachnis amulaensis.** (Tab. LXXV. fig. 4.)

*Ecpantheria amulaensis*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 87 (1889)<sup>1</sup>.

Primaries white, crossed from the costal to the inner margin by two broad, broken black bands, between which a row of small black spots crosses from the costal to the inner margin, and with several small black spots close to the base and a row of black spots along the outer margin, some larger than others; secondaries white, with some small black dots round the outer margin; the underside of the wings as above, excepting that the black bands are browner in colour: head and collar white, the head tipped with black in front, and the collar black behind; the tegulae white, each with two black spots; the thorax white, with two central black spots; the underside of the head and thorax, the upper and underside of the abdomen, the legs, and antennae all deep black. Expanse 1½ inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*<sup>1</sup>), Oaxaca (*ex coll. Sommer, in mus. Staudinger*).

This species resembles *Ecpantheria extrema*, Walk. The type is figured.

7. **Arachnis tenebra.** (Tab. LXXV. fig. 6, ♀.)

*Arachnis tenebra*, Schaus, P. Z. S. 1894, p. 231 (♀)<sup>1</sup>.

*Hab.* MEXICO, Orizaba (*Schaus*<sup>1</sup>).

The type is figured.

8. **Arachnis perotensis.** (Tab. LXXV. fig. 9, ♂.)

*Arachnis perotensis*, Schaus, Ent. Amer. v. p. 190 (♂ ♀) (1889)<sup>1</sup>.

*Hab.* MEXICO, Cofre de Perote 10,000 feet (*Schaus*<sup>1</sup>).



9. **Arachnis martina**, sp. n. (Tab. LXXV. fig. 12.)

*Male*. Primaries very similar to those of *A. perotensis*, Schaus, but considerably darker and with the white markings much smaller; secondaries smoky hyaline, with the costal and outer margins edged with dark brown, the inner margin clothed with black hairs: head, antennæ, thorax, and tegulæ brownish-black, the tegulæ edged with white; abdomen red, with a central black line extending from the base to the anus and a black line on each side; the underside of the thorax and abdomen and the legs white. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO (*mus. Staudinger*).

Two specimens, not labelled with any exact locality in Mexico. The insect is closely allied to *A. perotensis*, Schaus.

10. **Arachnis mishma**, sp. n. (Tab. LXXV. fig. 10.)

*Male*. Primaries semihyaline, barred with white and greyish-brown at the base and along the costal and inner margins, the veins spotted with white; secondaries whitish-hyaline, barred with white and greyish-brown on the costal margin, the inner margin clothed with black hairs, with a pink spot at the anal angle, the fringe brown, with a white patch about the middle of the outer margin: head and front of the thorax white, the tegulæ and the rest of the upperside of the thorax grey, the tegulæ edged with black; the abdomen red, the anal segment and a line down the middle black; the underside of the head, thorax, and abdomen greyish-white; the antennæ black. Expanse 2 inches.

*Hab.* MEXICO, Mineral del Monte (*Ehrenberg, in mus. Staudinger*).

CARALES (I. p. 99).

**Carales obscurator** (I. p. 99).

To the localities given, add:—MEXICO, Orizaba (*F. D. G. ; Boucard, in mus. D.*); GUATEMALA, in the city (*Rodriguez*).

3. **Carales euchætiformis**. (Tab. LXXV. fig. 13.)

*Opharus euchætiformis*, H. Edwards, Papilio, iv. p. 15 (♀) (1884)<sup>1</sup>.

*Hab.* MEXICO, Sierra Madre de Tepic (*Richardson*), State of Vera Cruz (*Schaus*<sup>1</sup>), Jalapa (*Höge, M. Trujillo*), Orizaba (*Boucard, in mus. D.*).

Allied to *C. obscurator*, Druce, but much smaller, and with dark markings on the primaries. A specimen from Jalapa is figured.

4. **Carales divina**. (Tab. LXXV. fig. 14, ♂.)

*Carales divina*, Schaus, Ent. Amer. v. p. 191 (♂ ♀) (1889)<sup>1</sup>.

*Hab.* MEXICO, Cofre de Perote 10,000 feet<sup>1</sup>, Las Vigas (*coll. Schaus*).

Described from a pair found *in copulâ* on the trunk of a pine-tree at Cofre de Perote. The male is figured.

5. **Carales phryganoides**. (Tab. LXXV. fig. 15.)

*Carales phryganoides*, Walk. Cat. iii. p. 731 (1855)<sup>1</sup>.

*Hab.* MEXICO, Jalapa, Orizaba (*coll. Schaus*).

Walker's type in the National Collection is from an unknown locality. We figure a specimen from Jalapa in Mr. Schaus's collection.

### 6. *Carales utica*, sp. n. (Tab. LXXV. fig. 17.)

*Male*. Primaries brown, thickly streaked with white, and with two white spots close to the base and one at the end of the cell, beyond which a broken white band crosses the wing from the costal to the inner margin; secondaries semihyaline smoky-brown, with a rather large whitish mark at the end of the cell, the anal angle pink; the base of the primaries and also that of the secondaries clothed with long pinkish hairs: head and thorax yellowish-grey, the antennæ reddish, the tegulæ dark brown; abdomen pink, with a row of small black spots extending from the base to the anus, the basal segments clothed with brownish hairs; the underside of the head, thorax and abdomen, and the legs dark brown. Expanse 2 inches.

*Hab.* MEXICO, Orizaba (*coll. Schaus*).

## BERTHOLDIA.

*Bertholdia*, Schaus, Journ. New York Ent. Soc. iv. p. 137 (Sept. 1896).

*Pelochyta*, anteà, i. p. 99 (nec Hübner).

Mr. Schaus takes *Trichromia specularis*, Herr.-Schäff., as the type of this genus, and also includes in it *Halesidota trigona*, Grote, and a new species described by him under the name *B. albipuncta*.

### 1. *Bertholdia specularis*.

*Pelochyta specularis*, anteà, i. p. 100.

*Zatrephes specularis*, Kirby, Cat. Lep. Het. i. p. 196.

To the localities given, add:—MEXICO, Orizaba (*Boucard, in mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood*).

### 2. *Bertholdia albipuncta*. (Tab. LXXV. figg. 16, ♂; 18, ♀.)

*Bertholdia albipuncta*, Schaus, Journ. New York Ent. Soc. iv. p. 137 (Sept 1896)<sup>1</sup>.

*Hab.* MEXICO<sup>1</sup>, Jalapa and Paso de San Juan in Vera Cruz (*coll. Schaus*), Orizaba (*Boucard, in mus. D.*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).—BRAZIL<sup>1</sup>.

As stated by Mr. Schaus, this species may be easily distinguished from *B. specularis* (Herr.-Schäff.) and *B. trigona* (Grote) by the white spot on the collar and the marginal white line. We figure a pair from Chiriqui from Dr. Staudinger's collection.

### 3. *Bertholdia philotera*, sp. n. (Tab. LXXV. figg. 19, ♂; 21, ♀.)

*Male*. Primaries dark brown, with the hyaline patch very much smaller and more dentated round the edges than in *B. specularis*, a pale brown submarginal line extending from the apex nearly to the anal angle, and a small yellow spot on the inner margin about the middle, the fringe alternately yellow and brown; secondaries smoky-hyaline, the inner margin clothed with bright-red hairs, the fringe black: head, antennæ, tegulæ, and thorax dark brown; the palpi bright red above, white beneath; abdomen above bright red, with a central line and the anal segments black; the underside of the thorax and abdomen white, that of the thorax red in front; the legs brown and white.—*Female*. Very similar to the male, but larger, the primaries paler, and the secondaries more opaque. Expanse, ♂  $1\frac{3}{10}$ , ♀  $1\frac{1}{4}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

A very distinct species allied to *B. specularis* and *B. albipuncta*, from which it may be distinguished by the smoky hind wings.



GRAPHEA (to precede the genus *Purius*, I. p. 100).

*Graphea*, Schaus, P. Z. S. 1894, p. 232.

This genus is allied to *Neozatrephes*, Druce, but differs from it in the neuration of the wings.

1. *Graphea marmorea*. (Tab. LXXV. fig. 20.)

*Graphea marmorea*, Schaus, P. Z. S. 1894, p. 232<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—VENEZUELA, Aroa<sup>1</sup>; BOLIVIA.

A specimen from Chiriqui is figured.

## PURIUS I. p. (100).

*Purius punctatus* (I. p. 100).

To the locality given, add:—MEXICO, Orizaba (*coll. Schaus*).

## PSEUDAPISTOSIA (I. p. 100).

*Pseudapistosia lystra* (I. p. 101).

To the locality given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

*Pseudapistosia degenera* (I. p. 101).

To the localities given, add:—MEXICO, Jalapa (*coll. Schaus*); GUATEMALA, in the city (*Rodriguez*).

5. *Pseudapistosia saduca*. (Tab. LXXVI. figg. 1, ♂; 2, ♀.)

*Pseudapistosia saduca*, Druce, Ann. & Mag. Nat. Hist. (6) xv. p. 46 (1895)<sup>1</sup>.

*Male.* Primaries dark brown, crossed from the costal to the inner margin by four pale greyish-brown bands, the two bands nearest the outer margin broken into small lines near the anal angle; secondaries dusky hyaline white, the veins, apex, and outer margin dark brown: head white, the palpi, antennæ, thorax, and legs dark brown; abdomen chrome-yellow, the basal segments dark brown, each segment edged with brown, the underside deep black.—*Female.* Very similar to the male, but altogether darker in colour, and with the base of the abdomen banded with yellow. Expanse, ♂ 2, ♀ 2½ inches.

*Hab.* MEXICO<sup>1</sup>, Orizaba (*Boucard, in mus. D.*), Jalapa (*M. Trujillo*); COSTA RICA<sup>1</sup>, Candelaria Mts. (*Underwood*), Santa Clara Valley 1200 feet (*Zurcher*); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

In the Mexican specimens the secondaries of the females are darker in colour than in those from Costa Rica. We figure a male from the Santa Clara Valley and a female from the Candelaria Mountains.

## PSYCHOPHASMA (I. p. 101).

*Psychophasma erosa* (I. p. 101).

To the localities given, add:—MEXICO, Orizaba (*coll. Schaus*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

BITURIX (to follow the genus *Psychopasma*, I. p. 101).

*Biturix*, Walker, Cat. iii. p. 717 (1855).

1. ***Biturix venosata*.**

*Biturix venosata*, Walk. Cat. xxxi. p. 304 (1864)<sup>1</sup>.

*Hab.* MEXICO, Vera Cruz (*Sallé*<sup>1</sup>), Paso de San Juan (*coll. Schaus*).

OPHARUS (I. p. 101).

***Opharus procroides*** (I. p. 101).

To the localities given, add:—MEXICO, Jalapa, Cuesta de Misantla (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*).

***Opharus albipunctatus*** (I. p. 102).

To the localities given, add:—MEXICO, Jalapa, Orizaba (*coll. Schaus*); COSTA RICA, Candelaria Mts. (*Underwood*).

5. ***Opharus tristis*.** (Tab. LXXVI. fig. 3.)

*Opharus tristis*, Schaus, Ent. Amer. v. p. 191 (♂) (1891)<sup>1</sup>.

*Opharus dolens*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 174 (1894)<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*Schaus*<sup>1</sup>, *M. Trujillo*), Orizaba<sup>2</sup> (*coll. Schaus*; *Boucard, in mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood*).

We figure a specimen from Orizaba.

6. ***Opharus linus***, sp. n. (Tab. LXXVI. fig. 4.)

Primaries and secondaries smoky-brown, the primaries darker near the base: head, collar, and thorax pale pink; tegulæ dark brown, edged with pink; abdomen dark greyish-brown, with the sides and the anal segment pale pink; legs brown, with the tarsi banded with pink; antennæ brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Jalapa (*coll. Schaus*).

One faded specimen.

7. ***Opharus belus***, sp. n. (Tab. LXXVI. fig. 5.)

Primaries pale fawn-colour, crossed from the costal to the inner margin by a series of waved darker brown lines, the widest of which are about the middle; secondaries pale fawn-colour, darker near the apex: head and tegulæ citron-yellow, the antennæ and palpi dark brown, the thorax and abdomen fawn-colour, the latter with the four terminal segments citron-yellow, each with a black dot on the middle; the under-side of the abdomen and the legs dark greyish-brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen.

8. ***Opharus jacca***, sp. n. (Tab. LXXVI. fig. 6.)

Primaries pale fawn-colour, with a very faint darker brown submarginal waved line extending from the costal to the inner margin; secondaries smoky-brown: head yellowish-white in front, the collar, tegulæ, thorax,



and abdomen fawn-colour, the latter with the anal tuft and the sides yellow and the underside brown; antennæ black at the base, brown near the tip; legs brown. Expanse  $2\frac{1}{2}$  inches.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

#### ANAXITA (I. p. 102).

##### **Anaxita decorata** (I. p. 102).

To the locality given, add:—MEXICO, Jalapa (*F. D. G.*), Orizaba (*Boucard, in mus. D.*), Oaxaca (*Flohr*); GUATEMALA, in the city (*Rodriguez*).

##### 2. **Anaxita drucei.** (Tab. LXXVI. fig. 8.)

*Anaxita drucei*, Rodriguez, Ent. Monthly Mag. xxix. p. 182 (♂) (1893)<sup>1</sup>.

*Male.* Primaries similar to those of *A. sannionis*, Butl., but more brick-red in colour, the streaks and bands crossing the wing greyer and rather wider, the second band not joined to the first, and broken into two towards the inner margin; the ground-colour pure white, instead of pale yellow, as in *A. sannionis*; and the streak in the cell and the spot below it are larger; underside paler, similar to the upperside, but with the base and two spots on the costal margin black, the first spot small, the second large and extending partly across the wing; secondaries black, on the underside a streak in the cell and a spot beyond it reddish-orange, the fringe black: head, collar, and tegulæ pure white, the tegulæ edged with black; antennæ black; abdomen bright red. Expanse  $3\frac{1}{4}$  inches.

*Hab.* GUATEMALA (*mus. Rodriguez*<sup>1</sup>).

This fine insect may be at once distinguished from either of the described species of the genus by the black hind wings, and also by many minor differences pointed out in the description. It is more closely allied to *A. sannionis*, Butl., from Ecuador and Peru, than to the Mexican *A. decorata*, Walk. Our figure is taken from a rough coloured drawing sent by Señor Juan Rodriguez.

#### EUCYANE (I. p. 103).

##### **Eucyane pylotes** (I. p. 103).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*).

##### **Eucyane arcæi** (I. p. 104). (Tab. LXXVI. fig. 12, ♀.)

To the locality given, add:—MEXICO, Orizaba (*coll. Schaus*); HONDURAS, San Pedro Sula (*Wittkugel, in mus. D.*).

We now figure a female, from Honduras, which differs from the type, a male, in having the band on the primaries pure white, instead of orange-yellow.

##### **Eucyane phœnicides** (I. p. 105).

To the locality given, add:—MEXICO, Orizaba (*Boucard, in mus. D.*).

## COMPOSIA (I. p. 105).

1. *Composia fidelissima*.

*Composia fidelissima*, Herr.-Schäff. Corr.-Blatt. zool.-min. Regensb. xx. p. 131 (1866)<sup>1</sup>; Dyar & French, Ent. News, i. pp. 105, 153, 154, fig. (1890)<sup>2</sup>.

*Composia olympia*, Butl. (1871), anteà, i. p. 105, t. 11. fig. 1.

Described originally<sup>1</sup> from Cuba, and also found by Mr. Dyar at Lake Worth, Florida<sup>2</sup>. I possess a fine series of it from Nassau, in the Bahamas.

## PHALOËSIA (I. p. 105).

*Phaloësia saucia* (I. p. 105).

To the Mexican localities given, add:—MEXICO, Acapulco (*J. J. Walker, H. H. Smith*), Venta de Zopilote in Guerrero (*H. H. Smith*), Jalapa (*coll. Schaus*), Orizaba (*Boucard, in mus. D.*).

## ACRIBIA (I. p. 106).

*Acribia melanchroia* (I. p. 106).

*Cocastrea melanchroia*, Boisd. Lép. Guat. p. 88 (1870).

To the localities given, add:—MEXICO, Atoyac in Vera Cruz (*H. H. Smith*).

*Acribia maculifrons* (I. p. 106).

To the localities given, add:—MEXICO, Orizaba (*Boucard, in mus. D.*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

## HYALURGA (I. p. 106).

*Hyalurga fenestra* (I. p. 106).

To the localities given, add:—MEXICO (*mus. Staudinger*).

*Hyalurga uria* (I. p. 106).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

3. *Hyalurga albovitrea*.

*Hyalurga albovitrea*, Walk. Cat. xxxi. p. 153 (1864)<sup>1</sup>.

*Hyalurga irregularis*, Feld. Reise der Novara, Lep. t. 103. fig. 16 (1874)<sup>2</sup>.

*Hab.* PANAMA, David (*Champion*).—ECUADOR; AMAZONS<sup>2</sup>, Ega<sup>1</sup>.

Our specimen from Panama is very similar to Felder's figure, but it is without the yellow spot near the anal angle of the primaries.



## PHALOË (I. p. 107).

**Phaloë gaumeri** (I. p. 107).

To the locality given, add:—MEXICO, Jalapa (*M. Trujillo*), Misantla (*F. D. G.*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

It is possible that this insect may prove to be inseparable from *Pericopis cubana*, Herr.-Schäff. (= *Sphæromachia cubana*, Grote).

**Phaloë verania** (I. p. 107).

To the locality given, add:—MEXICO, Cuesta de Misantla (*M. Trujillo*); HONDURAS, San Pedro Sula (*Wittkugel, in mus. D.*).

**Phaloë trotschi** (I. p. 108).

We have received two more specimens, one of each sex, from the original locality. The male is very similar to the female, the description having been taken from an example of the latter.

**Phaloë cerealia.** (Tab. LXXVI. fig. 7, ♂.)

To the locality given, add:—MEXICO, Cuesta de Misantla (*Schaus*).

We now figure the male of this species from Mr. Schaus's collection. It differs from the female in its smaller size and brighter colour.

## PERICOPIS (I. p. 109).

2 (A). **Pericopis cotta**, sp. n. (Tab. LXXVI. fig. 9, ♂.)

*Male.* Primaries pale brown, crossed from the costal margin by two yellowish hyaline bands, neither of which reaches the inner or outer margin, the first band placed at the end of the cell and the second nearer the apex, and with a small red spot at the base on the costal margin; secondaries yellowish hyaline, broadly bordered with black on the costal, outer, and inner margins, the inner margin and the anal angle shot with glossy blue; the underside of the primaries as above, but with the costal margin red at the base, that of the secondaries without the blue gloss and with the costal and inner margins streaked with white; the fringe of both wings black: head, antennæ, palpi, tegulæ, thorax, and legs black, the collar red; abdomen glossy blue-black, each segment very narrowly edged with white, the underside dark brown, banded with white. Expanse 2 inches.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

**Pericopis lycaste** (I. p. 110).

To the localities given, add:—MEXICO, Atoyac in Vera Cruz (*H. H. Smith*), Orizaba (*Boucard, in mus. D.*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); COSTA RICA, Santa Clara Valley 1200 feet (*Zurcher*).

In Mr. Schaus's collection there are three males from Jalapa which probably belong to this species. They differ from all other males I have seen in having the secondaries orange, instead of whitish, resembling the females in this respect.

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**Pericopis marginalis** (I. p. 110).

To the localities given, add:—GUATEMALA, in the city (*Rodriguez*).

The Guatemalan habitat is now confirmed. The locality Irazu, Costa Rica, must be erased, the insect from thence, a male, being referable to *P. lycaste*.

**6 (A). Pericopis cydon.** (Tab. LXXVI. figg. 14, ♂; 15, ♀.)

*Pericopis cydon*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 175 (♂ ♀) (1894)<sup>1</sup>.

*Male*. Primaries black-brown, with paler markings beyond the cell; secondaries hyaline, the inner margin clothed with blackish hairs, the apex and outer margin broadly bordered with black, edged on the inner side for about halfway from the anal angle by a wide orange-yellow band, and with two blue spots close to the anal angle and a marginal row of white dots, the veins black: head, antennæ, and thorax black; abdomen black at the base, the sides red, the underside yellow.—*Female*. Primaries dark brown; secondaries orange-yellow, with the apex and outer margin black, and a marginal row of white spots extending from the apex to the anal angle. Expanse, ♂ 3, ♀ 3¼ inches.

*Hab.* MEXICO, Jalapa (*M. Trujillo*<sup>1</sup>); BRITISH HONDURAS, Rio Sarstoon (*Blancaneux*); GUATEMALA, in the city (*Rodriguez*).

The specimen from Rio Sarstoon was originally included by me under *P. tibesis* (antea, i. p. 111); at that time it was the only one I had seen from this locality. We figure a pair from Jalapa.

**6 (B). Pericopis prætides.** (Tab. LXXVI. fig. 13, ♂.)

*Pericopis prætides*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 175 (♂) (1894)<sup>1</sup>.

*Male*. Primaries dark brown, similar to those of *P. tibesis*, Druce, but with the markings smaller, and with a marginal row of white spots extending from the apex to the anal angle; secondaries hyaline white, with the apex and the outer and inner margins broadly bordered with dark brown, a marginal row of small white spots extending from the apex to the anal angle: head, antennæ, and thorax dark brown; abdomen dark brown, the sides bright red, the underside yellowish-white, banded with dark brown. Expanse 2½ inches.

*Hab.* MEXICO, Jalapa (*M. Trujillo*<sup>1</sup>).

One specimen. It is possible that this insect may be an extreme form of *P. cydon*.

**Pericopis tibesis** (I. p. 111).

To the localities given, add:—PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

Dr. Staudinger's specimen differs from the others in being larger and paler, and in having the black band on the secondaries wider. The locality Rio Sarstoon, British Honduras, must be erased, the insect belonging to *P. cydon*.

**8 (A). Pericopis gaumeri.** (Tab. LXXVI. figg. 10, ♂; 11, ♀.)

*Pericopis gaumeri*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 174 (♂ ♀) (1894)<sup>1</sup>.

*Male*. Primaries semihyaline white, the costal margin, a spot in the cell, another at the end of the cell, the apex, and part of the outer margin all dark brown, and with a small red spot at the base near the costal margin, the inner margin broadly banded with dark brown from the base almost to the anal angle; secondaries pure white, with the marginal line and the ends of the veins dark brown; the underside of both wings white, that of the primaries almost without markings: head, thorax, antennæ, and legs dark brown, the head with a large yellow spot on each side; abdomen bright red, with a black line down



the middle, which does not reach the anal segment, the anus black, the underside bright yellow.—

*Female*. Primaries dark brown; secondaries pinkish-red, broadly bordered with brown from the apex to the anal angle: head, thorax, and abdomen as in the male. Expanse, ♂  $2\frac{3}{4}$ , ♀  $3\frac{1}{4}$  inches.

*Hab.* MEXICO, Temax in North Yucatan (*Gaumer* <sup>1</sup>).

9 (A). ***Pericopis humeralis***.

*Pericopis humeralis*, Walk. Cat. ii. p. 348 (1854) <sup>1</sup>.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

Walker's type was from an unknown locality <sup>1</sup>.

9 (B). ***Pericopis montezuma***. (Tab. LXXVII. figg. 25, 26, ♀.)

*Pericopis montezuma*, Schaus, P. Z. S. 1892, p. 283 (♀) <sup>1</sup>.

*Hab.* MEXICO, Las Vigas (*Schaus* <sup>1</sup>).

Probably a variety of *P. humeralis*, Walk.

***Pericopis thetis*** (I. p. 112).

To the localities given, add:—MEXICO, Cuernavaca in Morelos (*H. H. Smith*), Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*).

According to Mr. H. Edwards (Ent. Amer. ii. p. 165), this insect is quite common in some parts of Mexico.

10 (A). ***Pericopis howardi***. (Tab. LXXVII. fig. 24, ♂.)

*Daritis thetis*, Klug, var. *howardi*, H. Edwards, Ent. Amer. ii. p. 165 (1886) <sup>1</sup>.

*Hab.* NORTH AMERICA, New Mexico <sup>1</sup>.—MEXICO, Durango city (*Becker*), Guadalajara in Jalisco (*Goldsmith, in mus. D.*).

Altogether a larger and finer insect than *P. thetis* (Klug). A specimen from Durango city is figured.

***Pericopis fenestrata*** (I. p. 112).

To the locality given, add:—GUATEMALA, in the city (*Rodriguez*); HONDURAS (*Wittkugel, in mus. Staudinger*); COSTA RICA, Candelaria Mts. (*Underwood*).

***Pericopis umbra*** (I. p. 113).

To the locality given, add:—HONDURAS, San Pedro Sula (*Wittkugel, in mus. D.*).

***Pericopis angulosa*** (I. p. 113).

To the localities given, add:—MEXICO, Orizaba (*coll. Schaus*); HONDURAS (*Wittkugel, in mus. Staudinger*).

## ISOSTOLA (I. p. 115).

**Isostola superba** (I. p. 115).

To the locality given, add:—PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

2. **Isostola divisa**.

*Dioptis (Agyrta) divisa*, Walk. Cat. ii. p. 329 (1854) <sup>1</sup>.

*Isostola divisa*, Butl. Cist. Ent. ii. p. 114 <sup>2</sup>.

*Isostola vicina*, Butl. loc. cit. p. 115 <sup>3</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe and Trötsch, in mus. Staudinger*).—SOUTH AMERICA <sup>1 3</sup>, Pará <sup>1 2</sup>.

*I. vicina* is, I believe, nothing more than a variety of *I. divisa*. In the two specimens before me the hyaline markings vary in size, and the spots on each side of the head are yellow, instead of red, as in Walker's type.

## GNOPHÆLA (I. p. 115).

3. **Gnophæla disjuncta**.

*Gnophæla disjuncta*, H. Edwards, Ent. Amer. i. p. 128 (♂ ♀) (Oct. 1885) <sup>1</sup>.

*Hab.* MEXICO, Morelos, Las Vigas, Jalapa <sup>1</sup> (*Schaus*).

4. **Gnophæla epicharis**. (Tab. LXXVII. fig. 1, ♂.)

*Gnophæla epicharis*, Druce, Ann. & Mag. Nat. Hist. (6) xviii. p. 40 (♂ ♀) (July 1896) <sup>1</sup>.

*Male*. Primaries pale brownish-fawn-colour, with the veins and fringe dark brown, a large yellowish-white square-shaped spot at the end of the cell, beyond which nearer the apex are two small spots of the same colour; secondaries pale, shading to dark yellowish brown beyond the middle, the veins and fringe dark brown: head, antennæ, and thorax black, the sides of the head and the underside of the thorax bright orange; abdomen blue-black. Expanse  $1\frac{3}{4}$  inch.

*Hab.* GUATEMALA (*Conradt* <sup>1</sup>).

A female in Dr. Staudinger's collection is very similar to the male, but paler in colour.

## LEUCARCTIA (I. p. 116).

**Leucarctia acræa** (I. p. 116).

To the localities given, add:—MEXICO, Durango city (*Becker*), Sierra Madre de Tepic (*Richardson*), Guadalajara in Jalisco (*Goldsmith, in mus. D.*), Patzcuaro (*F. D. G.*), Orizaba (*F. D. G.*; *H. J. Elwes*; *Boucard, in mus. D.*), Coatepec (*Brooks*), Atoyac in Vera Cruz (*Schumann*), Cuesta de Misantla (*M. Trujillo*), Temax in North Yucatan (*Gaumer*); GUATEMALA (*Conradt, in mus. Staudinger*), Purula, Senahu, and Cachil in Vera Paz, Calderas (*Champion*), Guatemala city (*Rodriguez*).

**Leucarctia albida** (I. p. 117).

To the localities given, add:—MEXICO (*mus. Staudinger*); GUATEMALA (*Conradt, in mus. Staudinger*); COSTA RICA, Candelaria Mts. (*Underwood*).



## SPILOSOMA (I. p. 117).

2. *Spilosoma virginica*.

*Bombyx virginica*, Fabr. Ent. Syst., Suppl. p. 437 (1798) <sup>1</sup>.

*Arctia virginica*, Harris, Ins. inj. Veg. p. 248 (1841) <sup>2</sup>; ed. 3, p. 350, figg. 167, 168 (1862) <sup>3</sup>.

*Spilosoma virginica*, Walk. Cat. iii. p. 668 <sup>4</sup>; Riley, Rep. Ins. Missouri, iii. p. 28, t. 18 *a-c* (1871) <sup>5</sup>;

Stretch, Zygæn. & Bomb. N. Amer. p. 131, t. 6. fig. 6 (1872) <sup>6</sup>.

*Hab.* NORTH AMERICA <sup>1-6</sup>, Canada and United States.—MEXICO, Durango city (*Becker*).

The specimens from Durango agree well with others from North America in my own collection.

3. *Spilosoma orizaba*, sp. n. (Tab. LXXVII. fig. 4.)

*Male*. Primaries white, banded and spotted with black; secondaries white, with two black spots near the base on the costal margin and a marginal row of broken black spots extending from the apex to the anal angle: head white, the antennæ and thorax black; the tegulæ black, edged with white; abdomen with the central part black, the base, anus, and underside white, the sides bright red, with a row of small black spots extending from the base to the anus. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Orizaba (*coll. Schaus*).

One specimen, very like several Indian species.

HYPHANTRIA (to follow the genus *Spilosoma*, I. p. 117).

*Hyphantria*, Harris, Ins. Mass. p. 255 (1841); Stretch, Zygæn. & Bomb. N. Amer. p. 204 (1874).

*Hypantria*, Clemens, Proc. Acad. Phil. 1860 (1861), p. 530.

1. *Hyphantria cunea*.

*Phalæna Bombyx cunea*, Drury, Illustr. Exot. Ins. i. p. 36, t. 18. fig. 4 (1770) .

*Cyenia cunea*, Hübn. Zutr. Samml. exot. Schmett. iii. p. 8, figg. 405, 406 <sup>2</sup>.

*Spilosoma cunea*, Walk. Cat. iii. p. 669 <sup>3</sup>.

*Hyphantria cunea*, Stretch, Zygæn. & Bomb. N. Amer. p. 205, t. 8. figg. 18-20 (1874) <sup>4</sup>.

*Phalæna punctatissima*, Abbot & Smith, Lep. Georg. ii. t. 70 (1797) <sup>5</sup>.

*Spilosoma congrua*, Walk. Cat. iii. p. 669 <sup>6</sup>.

*Hab.* NORTH AMERICA <sup>1-6</sup>.—MEXICO, Orizaba (*H. J. Elwes*).

2. *Hyphantria textor*.

*Hyphantria textor*, Harris, Ins. Mass. p. 255 (1841) <sup>1</sup>; Riley, Rep. Ins. Missouri, iii. p. 130, figg. 55 *a-c* (1871) <sup>2</sup>; Stretch, Zygæn. & Bomb. N. Amer. p. 206, t. 8. fig. 21 <sup>3</sup>.

*Euproctis textor*, Walk. Cat. iv. p. 834 <sup>4</sup>.

*Spilosoma candida*, Walk. Cat. xxxi. p. 291 <sup>5</sup>.

*Hab.* NORTH AMERICA <sup>1-5</sup>.—MEXICO, Chihuahua (*coll. Schaus*), Durango city (*Becker*).

## ROBINSONIA (I. p. 117).

1. *Robinsonia grotei*. (Tab. LXXVII. fig. 2.)

*Robinsonia grotei*, Schaus, Canad. Ent. 1895, p. 61<sup>1</sup>.

*Robinsonia formula*, anteà, i. p. 117 (nec Grote).

To the localities given, add:—MEXICO, Jalapa<sup>1</sup> (*coll. Schaus*); COSTA RICA, Candelaria Mts. (*Underwood*).—PERU; BRAZIL, Rio Janeiro<sup>1</sup>; TRINIDAD<sup>1</sup>.

*Robinsonia perfecta* (I. p. 117).

This name, as noted on p. 391, must be sunk as a synonym of *Sallœa ochrosterna*, Feld.

3. *Robinsonia sabata*. (Tab. LXXVII. fig. 5.)

*Robinsonia sabata*, Druce, Ann. & Mag. Nat. Hist. (6) xvi. p. 36 (1895)<sup>1</sup>.

Primaries and secondaries pure white; the primaries with the costal margin edged with pale brown from the base nearly to the apex, the base and a small spot on the inner margin also pale brown, a white dot close to the base of the wing; the fringe of both wings white: head yellow, white in front, the antennæ and palpi black, the collar and tegulæ white, the thorax grey; abdomen yellow, with a central row of white dots extending from the base to the anus, the underside also white; front legs brown, the others white. Expanse  $2\frac{1}{10}$  inches.

*Hab.* BRITISH HONDURAS, Belize<sup>1</sup> (*Sir Alfred Moloney, in mus. D.*).

4. *Robinsonia deiopea*. (Tab. LXXVII. fig. 9.)

*Robinsonia deiopea*, Druce, Ann. & Mag. Nat. Hist. (6) xvi. p. 37 (1895)<sup>1</sup>.

Primaries and secondaries white; the primaries with the costal, outer, and inner margins and two bands pale fawn-colour—the first band broad, and crossing the wing about the middle from the costal margin to the anal angle, the second band narrow and near the apex,—and with a long white spot at the anal angle, the fringe brown; the secondaries with the fringe white: head yellow, white in front; antennæ and palpi black; collar and tegulæ white, the tegulæ edged with fawn-colour; thorax fawn-colour, with a large white spot at the base; abdomen yellow, with two black spots on each side near the anus, the underside white; legs greyish-white. Expanse 2 inches.

*Hab.* BRITISH HONDURAS, Belize<sup>1</sup> (*Sir Alfred Moloney, in mus. D.*).

Allied to *R. grotei*, Schaus.

5. *Robinsonia sanaea*. (Tab. LXXVII. fig. 3.)

*Robinsonia sanaea*, Druce, Ann. & Mag. Nat. Hist. (6) xvi. p. 37 (1895)<sup>1</sup>.

Primaries and secondaries white; the primaries with the costal margin broadly bordered with yellowish-brown, from which four fine yellowish-brown lines cross the wing—three to the outer margin and one to the inner margin,—the base of the wing yellowish-brown, from which two fine brown lines extend along the inner margin, the outer margin yellowish-brown, the fringe brown; secondaries with the fringe white: head, tegulæ, and thorax white; collar white, shaded with yellow; abdomen yellowish-brown above, white beneath. Expanse  $1\frac{1}{4}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*<sup>1</sup>).

This is the smallest known species of the genus.

EUPSEUDOSOMA (to follow the genus *Robinsonia*, I. p. 117).

*Eupseudosoma*, Grote, Proc. Ent. Soc. Phil. v. p. 240 (1865).



1. *Eupseudosoma involutum*.

*Phalæna involuta*, Sepp, Surin. Vlind. iii. p. 253, t. 115 (1852)<sup>1</sup>.

*Charidea nivea*, Herr-Schäff. Samml. aussereur. Schmett. pp. 74, 81, fig. 279 (1850-1858)<sup>2</sup>.

*Halesidota nivea*, Walk. Cat. xxxi. p. 308 (1864)<sup>3</sup>.

*Eupseudosoma niveum*, Grote, Proc. Ent. Soc. Phil. v. p. 240 (1865)<sup>4</sup>.

*Hab.* MEXICO, Durango city (*Becker*), Presidio de Mazatlan (*Forrer*), Sierra Madre de Tepic, Jalisco (*Richardson*), Dos Arroyos in Guerrero (*H. H. Smith*), Paso de San Juan and Coatepec in Vera Cruz (*coll. Schaus*), Jalapa (*coll. Schaus, Höge*), Cordova (*Rümeli*), Temax in North Yucatan (*Gaumer*); GUATEMALA, in the city (*Rodriguez*); PANAMA, Bugaba (*Champion*), Panama city (*J. J. Walker*).—GUIANA, Surinam<sup>1</sup>; BRAZIL<sup>2 3</sup>; CUBA<sup>4</sup>.

The larva, pupa, and cocoon of this species are figured by Sepp<sup>1</sup>, who states that the larva feeds upon the guayava, *Psidium pyrifera*.

## SALLÆA (I. p. 117).

*Sallæa ochrosteria* (I. p. 118).

*Robinsonia perfecta*, H. Edwards, anteà, i. p. 117.

To the locality given, add:—MEXICO, Coatepec (*Brooks*), Orizaba (*Boucard, in mus. D.*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

I follow Mr. Schaus (Canad. Ent. 1895, p. 61) in sinking the name *R. perfecta* as a synonym of this species. It seems to me, however, to be doubtful if *S. ochrosteria*, Feld.=*Turuptiana obliqua*, Walk. (1869), as stated by Mr. Schaus, the specimens not agreeing with Walker's description. The type of *T. obliqua*, which is from an unknown locality, I have not seen.

2. *Sallæa lacipea*. (Tab. LXXVII. figg. 6, ♂; 7, ♀.)

*Sallæa lacipea*, Druce, Ann. & Mag. Nat. Hist. (6) v. p. 215 (♂) (1890)<sup>1</sup>.

*Male*. Primaries white, with a broad >-shaped black mark at the anal angle, extending partly along the inner margin, but not nearly reaching the base of the wing, the upper part of this mark reaching the end of the cell, the fringe black just below the apex; secondaries white, the inner half broadly black to near the base; the underside of both wings as above; head and tegulæ white; the antennæ, thorax, and legs black; abdomen black, with the sides, anus, and underside dark orange-yellow.—*Female*. Primaries and secondaries pure white; in other respects similar to the male. Expanse, ♂ 2, ♀ 2 $\frac{1}{4}$  inches.

*Hab.* GUATEMALA, in the city (*Rodriguez*<sup>1</sup>).

Allied to *S. ochrosteria*, Feld., but differing from it in the entirely white costal margin of the primaries. Since the first description was published, we have received several more specimens, including three females.

## ARCTIA (I. p. 118).

*Arctia docta* (I. p. 118).

To the localities given, add:—MEXICO, Durango city (*Becker*), Guadalajara in

Jalisco (*Goldsmith, in mus. D.*), Patzcuaro, Mexico city (*F. D. G.*), Orizaba (*Flohr; Boucard, in mus. D.*), Xucumanatlan in Guerrero, Atoyac in Vera Cruz (*H. H. Smith*); GUATEMALA, in the city (*Rodriguez*), Coban in Vera Paz (*Conradt*); COSTA RICA, Candelaria Mts. (*Underwood*).

### 3. *Arctia nais*.

*Phalæna Noctua nais*, Drury, Illustr. Exot. Ins. i. p. 15, t. 7. fig. 3 (1770) <sup>1</sup>.

*Arctia nais*, Hübn. Zutr. Samml. exot. Schmett. iii. p. 40, figg. 599, 600 <sup>2</sup>; Walk. Cat. iii. p. 609 <sup>3</sup>.

*Hab.* NORTH AMERICA <sup>1-3</sup>, United States.—MEXICO, Jalapa, Orizaba (*coll. Schaus*).

## HERACLIA (I. p. 118).

### 2. *Heraclia rodriguezi*. (Tab. LXXVII. fig. 12.)

*Arctia rodriguezi*, Druce, P. Z. S. 1890, p. 498 <sup>1</sup>.

Primaries black, with a pinkish-white streak extending from the base almost to the anal angle, a large pinkish-white <-shaped mark on the costal side of this streak beyond the middle, and a small streak crossing the wing from the costal margin near the base almost to the inner margin; secondaries bright carmine, broadly bordered with black, above which close to the anal angle is a row of three small black spots: head, antennæ, thorax, tegulæ, and legs black, the abdomen bright carmine, the anus and underside black. Expanse 1½ inch.

*Hab.* GUATEMALA, in the city (*Rodriguez* <sup>1</sup>).

One specimen. It is possible that this insect may be an extreme form of *H. fervida* (Walk.).

## HOPLARCTIA (to follow the genus *Antarctia*, I. p. 119).

*Hoplarctia*, Butler, Illustr. Lep. Het. i. p. 54 (1877).

### 1. *Hoplarctia* (?) *hodeva*, sp. n. (Tab. LXXVII. fig. 15.)

Primaries dark brown, crossed about the middle by a wide cream-coloured band, which extends from the costal to the inner margin and then to the base of the wing slightly above the inner margin, the fringe dark brown; secondaries bright red, broadly bordered with black from the apex to the anal angle, the inner margin edged with black, the fringe black; the underside of the primaries reddish-yellow, with a small spot at the end of the cell and the outer margin black, that of the secondaries chrome-yellow, bordered with black: head, antennæ, thorax, and legs black, the collar and base of the tegulæ creamy-white, the abdomen glossy blue-black. Expanse 1½ inch.

*Hab.* MEXICO, Jalisco (*coll. Schaus*).

A second specimen of this species has the secondaries chrome-yellow above, instead of bright red, but in other respects it agrees with the example described and figured.

## EUCHÆTES (I. p. 119).

### 4. *Euchætes insulatus*.

*Halesidota insulata*, Walk. Cat. iii. p. 734 (1855) <sup>1</sup>.

*Cyenia insulata*, Kirby, Cat. Lep. Het. i. p. 236 <sup>2</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*).—VENEZUELA <sup>1</sup>; AMAZONS <sup>1</sup>; ANTILLES, Jamaica <sup>1</sup>, San Domingo <sup>1</sup>.



5. **Euchætes elegans.**

*Euchætes elegans*, Stretch, Zygæn. & Bomb. N. Amer. p. 189, t. 8. fig. 6 (1874)<sup>1</sup>; Wheeler's Rep. Surv. W. 100th Merid. v. p. 797, t. 40. figg. 5, 6 (1878)<sup>2</sup>.

*Cycnia elegans*, Kirby, Cat. Lep. Het. i. p. 236<sup>3</sup>.

*Hab.* NORTH AMERICA, Owen's Valley, California<sup>1 2 3</sup>.—MEXICO, Jalisco (*coll. Schaus*).

6. **Euchætes antica.**

*Halesidota antica*, Walk. Cat. vii. p. 1708 (1856)<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*), Vera Cruz<sup>1</sup>.

The type of this species is in the Saunders collection at Oxford.

7. **Euchætes pelopea**, sp. n. (Tab. LXXVII. fig. 8.)

Primaries creamy-white, with all the veins black; secondaries creamy-white, with the tips of the veins near the apex black; the fringe of both wings creamy-white: head and tegulæ chrome-yellow, the thorax creamy-white; abdomen chrome-yellow, with a row of black spots down the middle, the base and under-side creamy-white; antennæ and legs black. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Guadalajara in Jalisco (*coll. Schaus*).

One specimen.

CYCNIA (to follow the genus *Euchætes*, I. p. 119).

*Cycnia*, Hübner, Zutr. Samml. exot. Schmett. i. p. 7 (1818); Verz. bek. Schmett. p. 184.

1. **Cycnia (?) raspa** (Tab. LXXVII. fig. 11, ♂.)

*Cycnia (?) raspa*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 354 (♂ ♀) (1894)<sup>1</sup>.

*Male*. Primaries creamy-white, the costal margin shaded with yellow, four black lines crossing the wing from the costal to the inner margin—the first three near the base, the fourth beyond the cell,—the veins beyond the fourth line black, a short black streak at the end of the cell, the fringe yellow; secondaries uniformly pale yellow; the underside of both wings pale yellow, the primaries with black lines as above: head and thorax yellow, the collar and tegulæ white, the abdomen yellow; antennæ white, the pectinations black.—*Female*. Similar to the male, but larger. Expanse, ♂  $1\frac{7}{10}$ , ♀  $2\frac{1}{10}$  inches.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*<sup>1</sup>).

In this insect the wings are broader than in the other species of the genus, from which it may have to be separated.

2. **Cycnia lephassa**, sp. n. (Tab. LXXVII. fig. 10, ♂.)

*Male*. Primaries and secondaries semihyaline white, the primaries with the costal margin slightly yellowish: head and antennæ yellowish-white, the thorax, abdomen, and legs white. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Xucumanatlan in Guerrero 7000 feet (*H. H. Smith*).

Two specimens. This species is very closely allied to *C. tenera*, Hübn., but is without the black spots on the abdomen.

GINGLA (I. p. 120).

4. **Gingla æqualis**. (Tab. LXXVII. fig. 13.)

*Gingla æqualis*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 82 (1889)<sup>1</sup>.

Primaries orange-red, broadly bordered with black from the apex to the anal angle; secondaries deep black;

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the underside as above: head, antennæ, thorax, abdomen, and legs black, the tegulæ orange-red. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Coatepec (*Brooks*<sup>1</sup>).

One specimen only of this interesting species has been received; it exactly resembles *Ptychoglene æqualis*, Walk.

#### CHRYSOCALE (I. p. 120).

##### **Chrysocale magnifica** (I. p. 121).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*).

#### APISTOSIA (I. p. 121).

##### **Apistosis terminalis** (I. p. 121).

*Seirarctia bolteri*, H. Edwards, Papilio, iv. p. 121 (1884)<sup>1</sup>.

To the locality given, add:—NORTH AMERICA, Las Vegas in New Mexico<sup>1</sup>.—MEXICO, Cuernavaca in Morelos (*H. H. Smith*), Mexico city (*Schumann*), Orizaba (*Boucard*, in *mus. D.*), Jalapa (*coll. Schaus*).

##### **Apistosis tenebrosa** (I. p. 121).

To the locality given, add:—GUATEMALA (*Conradt*, in *mus. Staudinger*).

##### **Apistosis metella** (I. p. 121).

To the locality given, add:—MEXICO, Sierra Madre de Tepic (*Richardson*).

##### **Apistosis sylla** (I. p. 122).

To the locality given, add:—GUATEMALA, in the city (*Rodriguez*).

#### 7. **Apistosis tiria**, sp. n.

Primaries glossy greenish-black; secondaries dull black: head and collar yellow; antennæ, thorax, abdomen, and legs black, the underside of the thorax and abdomen, and the anal tuft, yellow. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Bolaños in Jalisco (*Richardson*), Omilteme and Xucumanatlan in Guerrero 7000 to 8000 feet (*H. H. Smith*).

#### LERINA (I. p. 122).

##### **Lerina incarnata** (I. p. 122). (Tab. LXXVII. fig. 14.)

To the Mexican locality given, add:—Durango city (*Becker*), San Andres Chalchicomula (*coll. Schaus*).

We now figure a specimen of this species from Durango city.

#### TUINA (I. p. 122).

##### **Tuina cingulata** (I. p. 122).

To the localities given, add:—MEXICO, Jalapa (*coll. Schaus*).



## CISTHENE (I. p. 123).

**Cisthene unifascia** (I. p. 123).

To the Mexican locality given, add:—Durango city (*Becker*), Presidio de Mazatlan (*Forrer*), Venta de Zopilote in Guerrero 2800 feet (*H. H. Smith*), Coatepec (*Brooks*), Temax in North Yucatan (*Gaumer*).

Varies in the width and extent of the yellow band crossing the primaries.

**Cisthene polyzona** (I. p. 123).

To the Mexican locality given, add:—Jalapa (*coll. Schaus*), Temax in North Yucatan (*Gaumer*).

**Cisthene criton** (I. p. 124).

To the locality given, add:—MEXICO, Coatepec (*coll. Schaus*).

## ODOZANA (I. p. 124).

**Odozana hercyna** (I. p. 124).

To the localities given, add:—MEXICO, Jalapa (*coll. Schaus*), Atoyac in Vera Cruz (*Schumann*); COSTA RICA, Candelaria Mts. (*Underwood*).

## TALARA (I. p. 125).

**Talara coccinea** (I. p. 125).

To the localities given, add:—MEXICO, Atoyac in Vera Cruz (*H. H. Smith*); COSTA RICA, Candelaria Mts. (*Underwood*).

## BRYCEA (I. p. 126).

2. **Brycea cynara**. (Tab. LXXVII. fig. 16.)

*Brycea cynara*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 175 (1894) <sup>1</sup>.

Primaries black, with a wide band extending from the base to beyond the cell and a submarginal band from the apex almost to the anal angle, both dark chrome-yellow; secondaries black, chrome-yellow at the base; the fringe black; the underside as above: head, antennæ, thorax, abdomen, and legs black, the collar and tegulæ chrome-yellow. Expanse  $1\frac{4}{8}$  inch.

*Hab.* MEXICO, near Durango city (*Becker* <sup>1</sup>).

One specimen. Allied to *B. disjuncta*, Walk.

3. **Brycea esula**. (Tab. LXXVII. fig. 17.)

*Brycea esula*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 88 (1889) <sup>1</sup>.

Primaries brownish-fawn-colour, the costal margin edged with yellow; secondaries orange, broadly bordered with black from the apex to the anal angle; the underside of both wings orange, broadly bordered with black: head, thorax, and tegulæ brownish-fawn-colour, the collar orange; abdomen yellow, with a narrow black central streak extending from the base to the anus, where it becomes wider, the underside brownish-fawn-colour; antennæ black; the legs brownish-fawn-colour. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Cuernavaca in Morelos (*H. H. Smith* <sup>1</sup>).

4. **Brycea cetes**, sp. n. (Tab. LXXVII. fig. 18.)

Primaries brownish-fawn-colour, the costal margin orange-yellow from the base almost to the apex; secondaries deep black, with the costal half of the wing pale yellow to near the apex; the underside of the primaries yellow, bordered with black from the apex to the anal angle, that of the secondaries as above: head, antennæ, thorax, and abdomen deep black. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Oaxaca (*coll. Schaus*).

5. **Brycea arbela**. (Tab. LXXVII. fig. 19.)

*Brycea arbela*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 89 (1889)<sup>1</sup>.

Primaries slate-colour, edged with orange-yellow along the costal margin to near the apex; secondaries pale yellow, broadly bordered with black; the underside of both wings pale yellow, bordered with black: head, thorax, abdomen, and legs black. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, near the city (*F. D. G.*<sup>1</sup>).

One specimen. Allied to *B. esula*, Druce, but certainly distinct.

6. **Brycea semirosea**. (Tab. LXXVII. fig. 20.)

*Brycea semirosea*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 89 (1889)<sup>1</sup>.

Primaries pinkish-fawn-colour, the costal margin edged with bright carmine from the base to about the middle, a short carmine streak extending from the base along the inner margin; secondaries bright carmine, broadly bordered with black from the apex to the anal angle; the underside of both wings bright carmine, bordered with black: head, thorax, tegulæ, and abdomen brownish-fawn-colour, the antennæ and legs black, the collar red. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Atoyac in Vera Cruz (*Schumann*<sup>1</sup>).

One specimen. Allied to *B. arbela*, Druce, from which it differs greatly in colour.

7. **Brycea mirma**, sp. n. (Tab. LXXVII. fig. 22.)

Primaries reddish-brown, with the costal margin red nearly to the apex, the apex and outer margin shaded with black; secondaries bright carmine-red, broadly bordered with black, except along the costal margin; the underside of the primaries bright carmine-red, with the apex black, that of the secondaries as above: head, antennæ, thorax, abdomen, and legs deep black. Expanse  $1\frac{1}{10}$  inch.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*).

8. **Brycea feronia**. (Tab. LXXVII. fig. 21.)

*Brycea feronia*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 89 (1889)<sup>1</sup>.

Primaries dark brown, darker along the inner margin, with a short streak from the base and beyond this a square-shaped spot, both creamy-white; secondaries bright orange, broadly bordered with black; the underside of both wings bright orange, bordered with black: head, thorax, antennæ, and legs black; abdomen black, with the sides yellow. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Omilteme in Guerrero 8000 feet (*H. H. Smith*<sup>1</sup>).

One specimen. Allied to *B. disjuncta*, Walk.

RUSCINO (I. p. 126).

**Ruscino latifasciata** (I. p. 127).

To the localities given, add:—MEXICO, Jalapa and Paso de San Juan in Vera Cruz (*coll. Schaus*), Teapa in Tabasco (*H. H. Smith*).



**Ruscino lunaris** (I. p. 127).

To the localities given, add:—MEXICO, Temax in Northern Yucatan (*Gaumer*); GUATEMALA, Zapote (*Champion*).

**6. Ruscino cynossema.** (Tab. LXXVII. fig. 23.)

*Ruscino cynossema*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 176 (1894) <sup>1</sup>.

Primaries similar to those of *R. latifasciata*, Butl., but with the black bands much straighter and the apex blacker; secondaries with the base black, the yellow colour forming a wide band across the wing: head, thorax, and abdomen yellow, the antennæ and legs black. Expanse 1 inch.

*Hab.* MEXICO, Rincon and Acaguizotla in Guerrero 2800 to 3500 feet (*H. H. Smith* <sup>1</sup>); GUATEMALA, in the city (*Rodriguez*).

This species differs from all the others of the genus known to me in having the base of the secondaries black.

**7. Ruscino cypris.** (Tab. LXXVIII. fig. 5.)

*Ruscino cypris*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 176 (1894) <sup>1</sup>.

Primaries black, crossed from the costal to the inner margin by two orange-yellow bands—the first wide, nearest the base, the second submarginal, slightly curved; secondaries black, with the base orange-yellow; the fringe black: head, antennæ, thorax, abdomen, and legs black, the collar and tegulæ orange-yellow. Expanse  $1\frac{4}{10}$  inch.

*Hab.* MEXICO, Lake Chapala in Jalisco (*Richardson* <sup>1</sup>), Jalisco (*Schumann*).

We figure the specimen received from Mr. Schumann.

**8. Ruscino praxis.** (Tab. LXXVIII. fig. 4.)

*Ruscino praxis*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 176 (1894) <sup>1</sup>.

Primaries black, crossed about the middle from the costal to the inner margin by a narrow pale yellow line, and with a similarly-coloured submarginal line extending from the apex almost to the anal angle; secondaries black, with the basal part of the wing pale yellow; the fringe black; the underside as above. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, near Durango city (*Becker* <sup>1</sup>), Guadalajara (*coll. Schaus*).

The type is now figured.

**9. Ruscino prusias.** (Tab. LXXVIII. fig. 2.)

*Ruscino prusias*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 176 (1894) <sup>1</sup>.

Primaries deep chrome-yellow, the base, a wide straight band beyond the middle, and the outer margin black; secondaries chrome-yellow, broadly bordered with black from the apex to the anal angle; the underside as above: head, thorax, and abdomen chrome-yellow, the antennæ, palpi, and legs black. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Jalisco (*Schumann* <sup>1</sup>).

One specimen.

## PTYCHOGLENE (I. p. 129).

**Ptychoglène æqualis** (I. p. 129).

*Lycomorpha sinuata*, H. Edwards, Ent. Amer. i. p. 128 (♂ ♀) (Oct. 1885) <sup>1</sup>.

To the localities given, add :—MEXICO, Durango (*Forrer*), Jalapa (*coll. Schaus* <sup>1</sup>).

**Ptychoglène xylophila** (I. p. 129).

To the localities given, add :—SALVADOR (*mus. Staudinger*).

**6. Ptychoglène pertunda.** (Tab. LXXVIII. fig. 3.)

*Ptychoglène pertunda*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 90 (1889) <sup>1</sup>.

Primaries bright scarlet, with the outer margin broadly bordered with black; secondaries deep black: head, thorax, and abdomen brownish-black, the tegulæ bright scarlet, the antennæ and legs black. Expanse 1 inch.

*Hab.* MEXICO, Guadalajara (*coll. Schaus*), Coatepec (*Brooks* <sup>1</sup>).

Allied to *P. æqualis* (Walk.). The type is figured.

**7. Ptychoglène phrada.** (Tab. LXXVIII. fig. 1.)

*Ptychoglène phrada*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 90 (1889) <sup>1</sup>.

Primaries red-carmine, bordered with black from the apex to the anal angle and for a short distance along the inner margin; secondaries black, slightly hyaline, with a broad red-carmine streak extending along the costal margin from the base to near the apex: head, antennæ, thorax, abdomen, and legs black. Expanse  $1\frac{3}{10}$  inch.

*Hab.* MEXICO, Atoyac in Vera Cruz (*Schumann* <sup>1</sup>).

This pretty species is allied to *P. erythrophora*, Feld.

**8. Ptychoglène pomponia.** (Tab. LXXVIII. fig. 8.)

*Ptychoglène pomponia*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 89 (1889) <sup>1</sup>.

Primaries brown, with the costal margin edged with red from the base to the apex; secondaries black, with the costal half bright carmine; the underside of the primaries bright scarlet, that of the secondaries as above: head and thorax brown; abdomen glossy black, with a bright red line on each side; antennæ and legs black. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Xucumanatlan in Guerrero 7000 feet (*H. H. Smith* <sup>1</sup>).

One specimen.

**9. Ptychoglène ira.** (Tab. LXXVIII. fig. 6.)

*Ptychoglène ira*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 90 (1889) <sup>1</sup>.

Primaries glossy blue-black, with the basal half dark orange, the costal margin black at the base; secondaries dull black; the underside of both wings as above: head, antennæ, thorax, abdomen, and legs black, the tegulæ yellow at the base. Expanse  $1\frac{1}{10}$  inch.

*Hab.* MEXICO, Jalisco (*Schumann* <sup>1</sup>).

One specimen.



10. **Ptychoglene pamphyliæ.** (Tab. LXXVIII. fig. 10.)*Ptychoglene pamphyliæ*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 90 (1889) <sup>1</sup>.

Primaries blackish-brown, yellow from the base to the middle of the costal margin, the yellow colour not extending to the inner margin; secondaries blackish-brown, the basal half orange; the underside of both wings as above: head, antennæ, thorax, and legs black, the tegulæ yellow; abdomen black, with the sides yellow. Expanse  $1\frac{1}{10}$  inch.

*Hab.* MEXICO, Jalisco (*Schumann* <sup>1</sup>).

One specimen.

BOENASA (to follow the genus *Ptychoglene*; I. p. 130).*Boenasa*, Walker, Cat. xxxi. p. 266 (1864).1. **Boenasa polyphron.** (Tab. LXXVIII. fig. 9.)*Boenasa polyphron*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 177 (1894) <sup>1</sup>.

Primaries pale brown, with a white streak on the inner margin extending from the base almost to the anal angle, and a small white streak near the apex; secondaries carmine, with the outer margin from the apex to the anal angle broadly bordered with black: head, thorax, abdomen, antennæ, and legs black, the anal tuft carmine. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Morelia (*F. D. G.* <sup>1</sup>).

One specimen. Allied to *B. nigrorosea*, Walk., from San Domingo, the type of the genus.

CISSURA (to follow the genus *Inopsis*, I. p. 130).*Cissura*, Walker, Cat. ii. p. 488 (1854).*Cratosia*, Felder, Reise der Novara, Lep. t. 106. fig. 8 (1874).1. **Cissura decora.***Cissura decora*, Walk. Cat. ii. p. 489 (1854) <sup>1</sup>.*Cratosia* (*Cretonotus*) *parallela*, Feld. Reise der Novara, Lep. t. 106. fig. 8 (1874) <sup>2</sup>.

*Hab.* BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).—BRAZIL <sup>1</sup>, Cuyaba <sup>2</sup>.

The specimen from Belize differs both from Walker's description and Felder's figure in having no trace of the third red streak on the primaries. The insect is not in very good condition, and it is inadvisable to name it without seeing more examples.

ARDONEA (I. p. 130).

*Doracis*, Boisduval, Lép. Guat. p. 96 (1870).**Ardonea morio** (I. p. 130).

To the Mexican localities given, add:—Jalisco (*Richardson*), Soledad in Guerrero 5500 feet (*H. H. Smith*), Orizaba (*H. J. Elwes, F. D. G.*), Cuesta de Misantla (*M. Trujillo*).

BALBURA (to follow the genus *Ardonea*, I. p. 130).

*Balbura*, Walker, Cat. ii. p. 481 (1854).

1. **Balbura dorsisigna.**

*Balbura dorsisigna*, Walk. Cat. ii. p. 481<sup>1</sup>.

*Hab.* HONDURAS (*Dyson*<sup>1</sup>); PANAMA, Bugaba (*Champion*).—VENEZUELA<sup>1</sup>.

Of this species we have received a few specimens from Bugaba.

LITHOSIA (I. p. 130).

**Lithosia laudamia** (I. p. 131).

To the localities given, add:—MEXICO, Orizaba (*coll. Schaus*).

**Lithosia intermedia** (I. p. 131).

To the Mexican locality given, add:—Atoyac in Vera Cruz (*H. H. Smith*), Jalapa (*M. Trujillo*).

6. **Lithosia cæcina**, sp. n. (Tab. LXXVIII. fig. 7.)

Primaries white, clouded with dark grey at the base and along the inner margin, the fringe dark grey; secondaries greyish-black, the fringe grey at the apex; the underside of both wings greyish-black, edged with white: head, thorax, and abdomen grey; the antennæ and legs black. Expanse  $\frac{3}{4}$  inch.

*Hab.* GUATEMALA, San Isidro 1600 feet (*Champion*).

One specimen.

7. **Lithosia ragua**, sp. n. (Tab. LXXVIII. fig. 12.)

Primaries creamy-white, with a brown streak extending down the middle from the base to the anal angle and a small brown dot at the end of the cell; secondaries pale pink; the fringe of both wings creamy-white: head, antennæ, and thorax white, the abdomen pink. Expanse  $\frac{3}{4}$  inch.

*Hab.* GUATEMALA, Pantaleon 1700 feet (*Champion*).

One specimen.

8. **Lithosia ziza**, sp. n. (Tab. LXXVIII. fig. 11.)

Primaries blackish-brown, clouded with creamy-white about the middle, a round spot on the outer margin and a streak along the inner margin also creamy-white; secondaries greyish-black: head, thorax, and abdomen dark grey, the collar and tegulæ whitish, the antennæ and legs black. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Orizaba (*coll. Schaus*).

9. **Lithosia tyres**, sp. n. (Tab. LXXVIII. fig. 14.)

Primaries greyish-white, thickly irrorated with black scales, and crossed beyond the middle by a white band, the fringe greyish-white; secondaries pale pink, the apex broadly black, the fringe grey: head and thorax grey, irrorated with black scales, the antennæ black and white, the abdomen pink. Expanse  $\frac{3}{4}$  inch.

*Hab.* GUATEMALA, Dueñas (*Champion*); NICARAGUA, Chontales (*Belt*).

Two specimens, the one from Dueñas is figured.



10. **Lithosia (?) cytheræa.** (Tab. LXXVIII. fig. 13.)

*Lithosia (?) cytheræa*, Druce, Ann. Mag. Nat. Hist. (6) xiii. p. 177 (1894) <sup>1</sup>.

Primaries pale greyish-brown, the costal and inner margins edged with yellow; secondaries yellowish-grey: head, collar, and tegulæ yellow, the thorax and abdomen greyish-brown, the antennæ black. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, near Durango city (*Becker* <sup>1</sup>).

One specimen.

ATOLMIS (I. p. 132).

**Atolmis flavicollis** (I. p. 132).

To the Mexican locality given, add:—Oaxaca (*coll. Schaus*).

CRAMBOMORPHA (I. p. 132).

**Crambomorpha argentea** (I. p. 132).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*), Coatepec (*Brooks*); COSTA RICA, Candelaria Mts. (*Underwood*).

1 (A). **Crambomorpha argentifera.**

*Halesidota argentifera*, Walk. Cat. xxxv. p. 1911 (1866) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*).—VENEZUELA <sup>1</sup>.

Of this species we have received many specimens from Costa Rica.

AREVA (I. p. 133).

**Areva laticilia** (I. p. 133).

To the localities given, add:—MEXICO, Misantla (*F. D. G.*), Jalapa (*Höge*), Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*).

2 (A). **Areva tolteca.** (Tab. LXXVIII. fig. 15.)

*Crambomorpha tolteca*, Schaus, Ent. Amer. v. p. 191 (♂ ♀) (1889) <sup>1</sup>.

*Hab.* MEXICO, Omilteme in Guerrero 8000 feet (*H. H. Smith*), Las Vigas and Coatepec <sup>1</sup> (*coll. Schaus, Brooks*), Jalapa (*M. Trujillo*).

We have received a few specimens of this species, all males.

**Areva marginata** (I. p. 133).

To the localities given, add:—MEXICO, Atoyac in Vera Cruz (*H. H. Smith, Schumann*), Jalapa (*M. Trujillo*).

4. **Areva perpensa.**

*Areva perpensa*, Schaus, P. Z. S. 1894, p. 241 (♂) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*Schaus* <sup>1</sup>).

BIOL. CENTR.-AMER., Heter., Vol. II., May 1897.

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**MÆNOLENEURA** (I. p. 135).

*Romanoffia*, Heylaerts, Compt. Rend. Soc. Ent. Belg. xxviii. p. xciv, fig. (1884); Romanoff, Mém. Lép. ii. p. 172 (1885).

Heylaerts refers his genus *Romanoffia* to the Cossina.

**Mænoleneura anomala** (I. p. 136).

*Romanoffia imperialis*, Heyl. Compt. Rend. Soc. Ent. Belg. xxviii. p. xcv (♂)<sup>1</sup>; Rom. Mém. Lép. ii. p. 173, t. 9. figg. 1 a-e<sup>2</sup>.

To the localities given, add:—MEXICO, Coatepec (*Brooks*).

The type of *R. imperialis* was found in Chiriqui<sup>1 2</sup>, whence I have already recorded the insect.

**CYDOSIA** (to follow the genus *Mænoleneura*, I. p. 136).

*Cydosia*, Westwood, in Jardine's Nat. Libr., Ent. vii. p. 193 (1841); Walker, Cat. ii. p. 523 (1854);

Stretch, Zygæn. & Bomb. N. Amer. p. 161 (1872-1873).

*Eggyna*, Walker, Cat. xxxv. p. 1894 (1866).

**1. Cydosia phædra**, sp. n. (Tab. LXXVIII. fig. 16, ♂.)

*Cydosia nobilitella*, Walk. Cat. ii. p. 524 (nec Westw.) (part.)<sup>1</sup>.

*Male*. Very similar to the male of *C. imitella*, Stretch, but without the white marginal line to the primaries, and with an additional orange band crossing the wing about the middle from the costal to near the inner margin; secondaries glossy blue-black, with the fringe white; the underside of the primaries streaked with white at the apex and along the outer margin, that of the secondaries as above: head, antennæ, thorax, and abdomen glossy blue-black; legs black, banded with white.—*Female*. Like the male, but with the anal segment edged with orange-yellow. Expanse, ♂ ♀, 1¼ inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Flohr*), Valladolid in Yucatan (*Gaumer*); GUATEMALA, Torola, Zapote, San Gerónimo (*Champion*); HONDURAS (*Dyson*<sup>1</sup>); COSTA RICA (*Van Patten*), Candelaria Mts. (*Underwood*); PANAMA, near the city (*J. J. Walker*).

This species is closely allied to the insect described under the name of *C. imitella* by Stretch, who has wrongly identified *C. nobilitella* (Cram.), the latter having white hind wings. The insect figured by Westwood under the name *C. nobilitella* is also quite distinct from that of Cramer, and I here propose the name of *C. westwoodi* for it. Walker included two species under Cramer's name, neither of which belongs to it. I have specimens of all the species in my own collection.

**EUBAPHE** (I. p. 136).**Eubaphe marginata** (I. p. 136).

To the locality given, add:—MEXICO, Jalapa, Orizaba (*coll. Schaus*); GUATEMALA, Calderas (*Champion*).



## EUDULE (I. p. 137).

**Eudule comformis** (I. p. 137).

To the localities given, add:—MEXICO, Durango city (*Becker*), Coatepec (*Brooks*), Orizaba (*H. J. Elwes*), Atoyac in Vera Cruz (*Schumann*), Paso de San Juan in Vera Cruz (*coll. Schaus*), Temax in Northern Yucatan (*Gaumer*); COSTA RICA, Candelaria Mts. (*Underwood*).

4 (A). **Eudule daxata**. (Tab. LXXVIII. fig. 17.)

*Eudule daxata*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 177 (1894)<sup>1</sup>.

Primaries and secondaries orange-yellow; the primaries with the costal margin at the base, the apex, and part of the outer margin edged with black, a curved black line crossing the wing beyond the middle from the costal almost to the inner margin, from which a rather wide line extends to the outer margin, and with two black streaks near the base; the underside as above: head, antennæ, and legs black, the abdomen and thorax orange-yellow. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Omilteme in Guerrero 8000 feet (*H. H. Smith*<sup>1</sup>).

One specimen. Allied to *E. tripunctata*, Druce.

6. **Eudule rhotana**. (Tab. LXXVIII. fig. 18.)

*Eudule rhotana*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 178 (1894)<sup>1</sup>.

Primaries and secondaries semihyaline yellowish-white, the costal, outer, and inner margins of both wings pale yellow, the veins black: head, thorax, and abdomen yellow, the palpi and antennæ black, the legs brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Xucumanatlan in Guerrero 7000 feet (*H. H. Smith*<sup>1</sup>).

Several specimens. Allied to *E. lineata*, Druce.

## LEPTIDULE (I. p. 138).

**Leptidule medea** (I. p. 139).

*Leptidule aetes*, Schaus, Ent. Amer. v. p. 191 (♂) (1889)<sup>1</sup>.

To the locality given, add:—MEXICO, Paso de San Juan in Vera Cruz (*Schaus*<sup>1</sup>).

The insect described by Mr. Schaus is a small specimen of *L. medea*, Druce.

EUPHANESSA (to follow the genus *Leptidule*, I. p. 139).

*Euphanessa*, Packard, Proc. Ent. Soc. Phil. iii. p. 102 (1864); Stretch, Zygæn. & Bomb. N. Amer. p. 52 (1872).

*Nudaria mendica*, Walk., from North America, is the type of this genus.

1. **Euphanessa pauper**. (Tab. LXXVIII. fig. 20.)

*Euphanessa pauper*, Schaus, Ent. Amer. v. p. 192 (♂) (1889)<sup>1</sup>.

*Eudule bada*, Druce, Ann. & Mag. Nat. Hist. (6) v. p. 215 (1890)<sup>2</sup>.

*Hab.* MEXICO, Las Vigas (*Schaus*<sup>1</sup>), Volcan de Ixtaccihuatl 11,500 feet (*Richardson*<sup>2</sup>).

We figure Mr. Schaus's type. Our specimen is smaller and not so distinctly marked on the primaries.

EUSTIXIA (to follow the genus *Autoceras*, I. p. 139).*Eustixia*, Hübner, Zutr. Samml. exot. Schmett. ii. p. 24 (1823).*Eustixis*, Butler, Trans. Ent. Soc. Lond. 1878, p. 55.1. **Eustixia minima.** (Tab. LXXVIII. fig. 22.)*Eustixis minima*, Butl. Trans. Ent. Soc. Lond. 1878, p. 55<sup>1</sup>.*Hab.* MEXICO, Jalisco (*Schumann*).—AMAZONS, Rio Jutahi<sup>1</sup>.

One specimen, not in very good condition.

## NOLA (I. p. 139).

**Nola minuta** (I. p. 140).To the locality given, add :—MEXICO, Oribaza (*coll. Schaus*).**Nola melicerta** (I. p. 140).To the locality given, add :—MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*).**Nola patina** (I. p. 140).To the locality given, add :—MEXICO, Jalapa (*M. Trujillo*).

Mexican specimens are rather larger and greyer than the type.

10. **Nola sexmaculata.***Nola sexmaculata*, Grote, Canad. Entom. ix. p. 235 (1877)<sup>1</sup>.*Hab.* NORTH AMERICA, Canada<sup>1</sup>.—MEXICO, Coatepec (*coll. Schaus*).In their revision of the Bombyces of America north of Mexico, Messrs. Neumoegen and Dyar place this species as a synonym of *Lebena trinotata*, Walk. (Cat. xxxv. p. 1902).11. **Nola cernitis**, sp. n. (Tab. LXXVIII. fig. 19.)Primaries pale grey, crossed by several indistinct darker grey bands and lines of small dots; secondaries uniformly pale grey: head, thorax, and abdomen pale grey. Expanse  $\frac{3}{4}$  inch.*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

One specimen.

12. **Nola (?) apera**, sp. n.Primaries and secondaries greyish-white, the primaries irrorated with a few dark grey scales: head, thorax, and abdomen grey. Expanse  $\frac{1}{2}$  inch.*Hab.* MEXICO, Jalapa (*M. Trujillo*).

## ORICIA (I. p. 142).

**Oricia truncata** (I. p. 142).To the localities given, add :—MEXICO, Jalapa (*coll. Schaus*), Atoyac in Vera Cruz,



Teapa in Tabasco (*H. H. Smith*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

VIRBIA (I. p. 143).

**Virbia luteilinea** (I. p. 143).

To the localities given, add:—COSTA RICA, Santa Clara Valley 1200 feet (*Zurcher*).

In the specimen received from Costa Rica the black margin to the secondaries is narrower than usual.

**Virbia medarda** (I. p. 143).

To the localities given, add:—MEXICO, Jalapa (*coll. Schaus*).

SAGARIS (I. p. 144).

**Sagaris horæ** (I. p. 144).

To the localities given, add:—GUATEMALA, Coban in Vera Paz (*Conradt*).

The Coban specimen is a female; it is considerably larger than either of the two described, both of which are males.

EPIDESMA (to follow the genus *Sagaris*, I. p. 144).

*Epidesma*, Hübner, Verz. bek. Schmett. p. 176 (1816).

### 1. *Epidesma ursula*.

*Phalena Noctua ursula*, Cram. Pap. Exot. iv. p. 107, t. 345. fig. E<sup>1</sup>.

*Epidesma ursula*, Hübn. Verz. bek. Schmett. p. 176<sup>2</sup>; Walk. Cat. vii. p. 1649<sup>3</sup>.

*Iosia (Epidesma) ursula*, Walk. Cat. ii. p. 310<sup>4</sup>.

*Hab.* COSTA RICA (*Van Patten, in mus. D.*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—GUIANA, Surinam<sup>1</sup>; AMAZONS, Pará<sup>4</sup>.

EPHIALTIAS (I. p. 145).

### 6. *Ephialtias peba*, sp. n. (Tab. LXXVIII. fig. 23.)

*Ephialtias* — ?, anteà, i. p. 146.

*Male.* Primaries brownish-black, with a pale yellowish spot at the end of the cell, the fringe black; secondaries black, with a central yellow streak extending from the base to near the outer margin; head, antennæ, tegulæ, thorax, abdomen, and legs black, the front of the head and the underside of the thorax yellow. Expanse 1 inch.

*Hab.* PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

### 9. *Ephialtias superba*, sp. n. (Tab. LXXVIII. fig. 21.)

Primaries black, shot with bright metallic blue at the base, and crossed about the middle from the costal to the inner margin by a wide orange-coloured band; secondaries black, shot with bright blue at the base, and with a large orange-coloured patch close to the apex extending almost to the outer margin; the fringe of both wings black; head, thorax, and abdomen bright metallic blue; antennæ, tegulæ, and legs black. Expanse 1½ inch.

*Hab.* PANAMA, Chiriqui (*mus. Staudinger*).

One specimen only of this distinct and beautiful species has been received.

10. **Ephialtias coatepeca.** (Tab. LXXVIII. fig. 24, ♂.)

*Ephialtias coatepeca*, Schaus, Ent. Amer. v. p. 192 (♂ ♀) (1889)<sup>1</sup>.

*Hab.* MEXICO, Coatepec and Paso de San Juan in Vera Cruz (*Schaus*<sup>1</sup>), Jalapa (*M. Trujillo*), Atoyac in Vera Cruz (*H. H. Smith*).

We figure a male from Atoyac.

JOSIA (I. p. 148).

**Josia ligata** (I. p. 148).

To the localities given, add :—MEXICO, Jalapa (*M. Trujillo*).

**Josia frigida** (I. p. 149).

To the localities given, add :—MEXICO, Atoyac in Vera Cruz (*H. H. Smith*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

**Josia fusifera** (I. p. 149).

To the localities given, add :—MEXICO, Coatepec (*Brooks*), Las Vigas (*coll. Schaus*).

7. **Josia gigantea**, sp. n. (Tab. LXXVIII. fig. 25, ♀.)

*Female.* Primaries black, with a wide chrome-yellow band extending from the base to the outer margin, the inner margin edged with yellow from the base to the anal angle, the fringe black; secondaries black, with a wide central chrome-yellow band extending from the base to near the apex, the fringe on the inner margin to the middle of the outer margin chrome-yellow, then black, and again yellow at the apex: head, collar, and tegulae chrome-yellow; abdomen chrome-yellow, with black lines extending from the base to the anus, the underside yellowish-white; antennae and legs black. Expanse  $1\frac{3}{4}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

FLAVINIA (I. p. 150).

**Flavinia læta** (I. p. 150).

To the localities given, add :—MEXICO, Orizaba (*F. D. G.*), Cuesta de Misantla (*M. Trujillo*), Atoyac in Vera Cruz (*H. H. Smith*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

**Flavinia postica** (I. p. 151).

To the localities given, add :—COSTA RICA, Santa Clara Valley 1200 feet (*Zurcher*).

7. **Flavinia cyrene.**

*Flavinia cyrene*, Druce, P. Z. S. 1885, p. 529<sup>1</sup>.

*Flavinia jalapæ*, Schaus, Ent. Amer. vi. p. 45 (♂ ♀) (1890)<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*Schaus*<sup>2</sup>); GUATEMALA, Volcan de Santa Maria, Pacific Slope (*Richardson*); HONDURAS, San Pedro (*Whitely, in mus. D.*); NICARAGUA, Chontales (*Belt; mus. D.*).—COLOMBIA; BOLIVIA<sup>1</sup>.



8. *Flavinia alcidamea*.

*Flavinia alcidamea*, Druce, P. Z. S. 1890, p. 498.

Primaries and secondaries bright citron-yellow, the costal, outer, and inner margins of both wings narrowly bordered with deep black, the black more extended at the apex of the primaries: head, thorax, antennæ, palpi, and legs black; abdomen black, banded with yellow at the sides; antennæ pectinated in the male, simple in the female. Expanse, ♂ ♀,  $1\frac{1}{2}$  inch.

*Hab.* PANAMA, Chiriqui (*Arcé, in mus. D.*<sup>1</sup>).—ECUADOR, Intac<sup>1</sup>.

The female resembles the male in colour.

## PSEUDOMENNIS (I. p. 152).

*Pseudomennis bipennis* (I. p. 152).

To the localities given, add:—MEXICO, Coatepec (*Brooks*), Atoyac in Vera Cruz (*H. H. Smith*).

## ÆNOTRUS (I. p. 154).

5. *Ænotrus mamitus*. (Tab. LXXVIII. figg. 26, 27.)

*Ænotrus mamitus*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 91 (1889)<sup>1</sup>.

Primaries and secondaries uniform dull black, with the fringe greyish; the underside of the primaries black, with the costal margin from the base to beyond the middle edged with pinkish-white, a curved cream-coloured band edged with pink crossing the wing from the costal margin near the apex to the outer margin close to the anal angle; the underside of the secondaries brownish-black, crossed by two pinkish-white lines, the costal margin edged with white: head, thorax, and abdomen black, the collar and tegulæ edged with yellow, the antennæ and legs black. Expanse  $1\frac{4}{10}$  inch.

*Hab.* MEXICO, Amecameca in Morelos (*F. D. Godman*<sup>1</sup>).

One specimen, captured in April, 1888.

6. *Ænotrus splendens*. (Tab. LXXVIII. figg. 28, 29, ♂.)

*Ænotrus splendens*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 91 (1889)<sup>1</sup>.

Primaries dull black, with two cream-coloured spots near the costal margin towards the apex in the male, and one spot only in the female; secondaries dull black, with two indistinct cream-coloured spots on the outer margin near the apex in the male, these being absent in the female; the underside of the primaries dull black, with the spots as above, and also with one minute white dot on the middle of the outer margin; the underside of the secondaries black, with a streak at the base, two spots on the costal margin, and a spot on the outer margin cream-colour, a large spot at the base and one on the inner margin near the anal angle bright carmine, these latter in some specimens joining a cream-coloured spot in the centre of the wing: head, antennæ, thorax, abdomen, and legs black, the collar orange. Expanse, ♂ ♀,  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Omilteme in Guerrero 8000 feet (*H. H. Smith*<sup>1</sup>).

7. *Ænotrus orodes*, sp. n. (Tab. LXXVIII. fig. 30.)

Primaries and secondaries dull black, the primaries with a red spot on the costal margin close to the base, the fringe of both wings black; the underside as above, but with a fine greyish-white streak partly crossing the primaries near the apex, and the veins of the secondaries greyish-white: head, thorax, abdomen, antennæ, and legs black, the collar and the underside of the thorax orange. Expanse  $1\frac{3}{10}$  inch.

*Hab.* MEXICO, Guadalajara (*coll. Schaus*).

On the underside this species closely resembles *Æ. striatus*, Druce, from which it differs in having a red spot at the base of the primaries above and beneath.

## MELANCHROIA (I. p. 155).

**Melanchroia cephise** (I. p. 155).

To the localities given, add :—MEXICO, Temax in North Yucatan (*Gaumer*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

**Melanchroia inconstans** (I. p. 155).

To the locality Mexico, add :—Omiteme in Guerrero 8000 feet (*H. H. Smith*).

One specimen, agreeing well with Geyer's figure.

3. **Melanchroia phæbe**. (Tab. LXXVIII. fig. 32.)

*Melanchroia phæbe*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 92 (1889) <sup>1</sup>.

Primaries and secondaries blue-black, the primaries with the apex tipped with white and the base orange, the secondaries with the extreme base orange; the underside dull black, with the veins deep black, the base of both wings bright orange: head, thorax, abdomen, antennæ, and legs black, the collar and tegulæ orange. Expanse, ♂ ♀, 1½ inch.

*Hab.* MEXICO, Durango city (*Becker*), Lake Chapala in Jalisco (*Richardson*), Amula in Guerrero 6000 feet <sup>1</sup>, Cuernavaca in Morelos (*H. H. Smith*).

Allied to *M. inconstans*, Geyer, but differing from it in the orange-coloured base of the primaries, and also in the colour of the underside.

4. **Melanchroia monticola**. (Tab. LXXVIII. figg. 33, 34.)

*Melanchroia monticola*, Schaus, Ent. Amer. v. p. 192 (♀) (1889) <sup>1</sup>.

*Hab.* MEXICO, Las Vigas 9000 feet (*Schaus* <sup>1</sup>).

The type is figured.

## LAURONA (I. p. 156).

**Laurona rica** (I. p. 156).

To the localities given, add :—MEXICO, Misantla (*F. D. G.*), San Lorenzo (*M. Trujillo*), Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*), Temax in North Yucatan (*Gaumer*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); NICARAGUA, Matagalpa (*Richardson*); COSTA RICA, Santa Clara Valley 1200 feet (*Zurcher*), Candelaria Mts. (*Underwood*).

**Laurona chthonophyle** (I. p. 156).

To the Mexican locality given, add :—Jalisco (*Schumann*), San Blas (*Richardson*), La Venta in Guerrero (*H. H. Smith*).

## POLYPÆTES (I. p. 159).

2 (A). **Polypætes cethegus**.

*Polypætes cethegus*, Schaus, Ent. Amer. v. p. 192 (♂ ♀) (1889) <sup>1</sup>.



*Hab.* MEXICO, Coatepec (*Schaus*<sup>1</sup>), Cuesta de Misantla (*M. Trujillo*), Atoyac in Vera Cruz (*Schumann*).

This species is exceedingly closely allied to *P. etearchus*, Druce.

3 (A). **Polypætes maximus**, sp. n. (Tab. LXXVIII. fig. 31, ♂.)

*Male.* Primaries dark brown, crossed at the end of the cell from the costal to the inner margin by a pale brown line, and with a submarginal zigzag pale brown line extending from near the apex to the anal angle, the fringe dark brown; secondaries semihyaline brown, darker at the apex and round the outer margin; head, antennæ, thorax, abdomen, and legs dark brown. Expanse 2 inches.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

**Polypætes demades** (I. p. 160).

To the localities given, add:—MEXICO, Jalapa (*coll. Schaus*).

4 (A). **Polypætes villia**, sp. n. (Tab. LXXVIII. fig. 35, ♂.)

*Male.* Primaries pale brown, with a spot at the end of the cell and an indistinct one on the inner margin near the base greyish-white, and a pale brown marginal line extending from the apex to the anal angle; secondaries semihyaline white, broadly bordered with brownish-black from the apex to the anal angle; head, antennæ, thorax, abdomen, and legs dark brown.—*Female.* Very similar to the male, but with the spot on the inner margin of the primaries near the base more distinct. Expanse, ♂ 1¾, ♀ 1½ inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

Allied to *P. eriphus*, Druce.

TURUENNA (to precede the genus *Genussa*, I. p. 163).

*Turuenna*, Walker, Cat. xxxii. p. 545 (1865).

1. **Turuenna violascens**.

*Ocneria* (?) *violascens*, Herr.-Schäff. Samml. aussercur. Schmett. pp. 69, 83, t. 81. fig. 469<sup>1</sup>; Walk. Cat. xxxii. p. 326<sup>2</sup>.

*Turuenna dirphoides*, Walk. Cat. xxxii. p. 545<sup>3</sup>.

*Hab.* BRITISH HONDURAS, San Pedro Sula (*Wittkugel, in mus. D.*); GUATEMALA, in the city (*Rodriguez*); PANAMA, Chiriqui (*mus. Staudinger*).—BRAZIL<sup>1 2</sup>.

Both sexes of this species are before me, the male being considerably smaller than the female. The type of *T. dirphoides* was from an unknown locality.

ASIONA (to follow the genus *Genussa*, I. p. 163).

*Asiona*, Walker, Cat. ii. p. 556 (1854).

1. **Asiona inæqualis**.

*Asiona inæqualis*, Walk. Cat. ii. p. 557<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—AMAZONS, Ega<sup>1</sup>.

One specimen from Chiriqui, a female, agreeing well with the type in the British Museum.

## AGARÆA (I. p. 163).

**Agaræa longicornis** (I. p. 163).

To the localities given, add :—MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*).

2. **Agaræa minuta**. (Tab. LXXIX. fig. 2, ♂.)

*Agaræa minuta*, Schaus, P. Z. S. 1892, p. 288<sup>1</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Las Mercedes (*Champion*).—BRAZIL, Corcovado, Rio Janeiro<sup>1</sup>.

Our specimens are identical with Mr. Schaus's type. We figure one from Teapa.

3. **Agaræa pellucida**.

*Phalæna pellucida*, Sepp, Surin. Vlind. ii. p. 175, t. 76<sup>1</sup>.

*Hab.* MEXICO, Tabi in Yucatan (*F. D. G.*).—GUIANA, Surinam<sup>1</sup>.

One specimen.

BITURIX (to follow the genus *Agaræa*, I. p. 163).

*Biturix*, Walker, Cat. iii. p. 717 (1855).

1. **Biturix venosata**. (Tab. LXXIX. fig. 4.)

*Biturix venosata*, Walk. Cat. xxxi. p. 304<sup>1</sup>.

*Hab.* MEXICO, La Venta in Guerrero (*H. H. Smith*), Vera Cruz (*Sallé*<sup>1</sup>); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

The Chiriqui specimen is figured.

## XENOSOMA (I. p. 165).

2 (A). **Xenosoma giganteum**. (Tab. LXXIX. fig. 1.)

*Xenosoma gigantea*, Druce, Ann. & Mag. Nat. Hist. (6) xv. p. 49 (1895)<sup>1</sup>.

Primaries and secondaries semihyaline white, the primaries slightly shaded with yellow at the base and along the inner margin, the fringe of both wings white: head and legs pale yellow, the antennæ black, the thorax and abdomen yellowish-white, the thorax pale yellow beneath. Expanse  $2\frac{3}{4}$  inches.

*Hab.* BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*<sup>1</sup>).

Allied to *X. nigromarginatum*, Druce, but very distinct.

## ARCHYLUS (I. p. 166).

2. **Archylus mexicanus**. (Tab. LXXIX. fig. 5.)

*Archylus mexicana*, Schaus, P. Z. S. 1892, p. 288<sup>1</sup>.

*Hab.* MEXICO, Jalapa<sup>1</sup> (*coll. Schaus*).

We figure the type from Jalapa.



3. **Archylus tener**, sp. n. (Tab. LXXIX. fig. 6.)

*Male*. Primaries white, with the costal and inner margins broadly black, the outer margin and fringe also black; secondaries pure white, slightly dusky at the anal angle: head and abdomen white, the antennæ yellow, the thorax black. Expanse  $1\frac{3}{10}$  inch.

*Hab.* MEXICO, Orizaba (*coll. Schaus*).

One specimen.

## STILPNOTIA (I. p. 167).

**Stilpnotia tibialis** (I. p. 167).

To the localities given, add:—COSTA RICA, Santa Clara Valley 1200 feet (*Zurcher*).

The female is considerably larger than the male, and has the antennæ almost black, instead of yellow.

**Stilpnotia pura** (I. p. 167).

To the localities given, add:—MEXICO, near Durango city (*Becker*); GUATEMALA, San Gerónimo (*Champion*).

Single worn female examples have been received from each of these localities. They are very similar to the male of *S. pura*, but considerably larger, and the primaries appear to be crossed by faint black lines.

## CARAMA (I. p. 167).

**Carama plumosa** (I. p. 168).

To the localities given, add:—MEXICO, Durango city (*Becker*), Jalapa, Cuesta de Misantla (*M. Trujillo*), Atoyac in Vera Cruz (*H. H. Smith*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

5. **Carama(?) argentea**, sp. n. (Tab. LXXIX. fig. 3, ♀.)

*Female*. Primaries and secondaries pure white, the primaries crossed from the costal to the inner margin by two broad bands of silvery scales, the outer margin edged with silver: head, thorax, legs, and abdomen pure white (antennæ wanting). Expanse  $2\frac{2}{10}$  inches.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen, quite distinct from any other species of *Carama* known to me.

## ORGYIA (I. p. 168).

1. **Orgyia falcata**. (Tab. LXXIX. fig. 7, ♂.)

*Orgyia falcata*, Schaus, Journ. New York Ent. Soc. iv. p. 153 (Dec. 1896)<sup>1</sup>.

*Orgyia leucostigma*, antea, i. p. 168 (nec Abbot & Smith).

Mr. Schaus<sup>1</sup> states that this species differs from *O. leucostigma*, Abbot and Smith, in having the primaries somewhat produced at the apex. His specimens were from Jalapa, whence I have already recorded the insect.

2. **Orgyia coresia**, sp. n. (Tab. LXXIX. fig. 8, ♂.)

*Male*. Primaries and secondaries uniformly pale brown, the primaries crossed from the costal to the inner margin by two darker brown bands—the first near the base and the second beyond the middle,—and with an indistinct pale spot at the end of the cell, the fringe of both wings brown; the underside paler than above, the primaries and secondaries each with a darker submarginal line: head, thorax, abdomen, and legs pale brown, the antennæ blackish-brown. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Guadalajara in Jalisco (*Goldsmith, in mus. D.*).

Two specimens.

EACLES (I. p. 169).

**Eacles magnifica** (I. p. 169).

To the localities given, add:—MEXICO, near Durango city (*Becker*); BRITISH HONDURAS, San Pedro Sula (*Wittkugel, in mus. D.*); GUATEMALA, in the city (*Rodriguez*).

The single example from Durango city, a female, differs considerably from all the others before me, the lines crossing both wings being very much wider and darker, almost grey-black, and the spots at the end of the cell are also larger and darker. I think it is quite possible that upon receipt of more specimens it will prove to belong to a distinct species.

1 (A). **Eacles imperialis**.

*Phalæna Attacus imperialis*, Drury, Illustr. Exot. Ins. i. t. 9. figg. 1, 2 (1770)<sup>1</sup>; Stoll, Suppl. Cram.

Pap. Exot. p. 178, t. 42. fig. 1 (1791)<sup>2</sup>.

*Ceratocampa imperialis*, Westw. ed. Drury, Illustr. Exot. Ins. i. p. 17, t. 9. figg. 1, 2<sup>3</sup>.

*Bombyx imperialis*, Fabr. Spec. Ins. ii. p. 181<sup>4</sup>.

*Citheronia imperialis*, Dunc. in Jardine's Nat. Libr., Exot. Moths, p. 158, t. 17. fig. 1 (1841)<sup>5</sup>.

*Eacles imperialis*, Walk. Cat. vi. p. 1371<sup>6</sup>.

*Basilona imperialis*, Boisd. Ann. Soc. Ent. Fr. 1868, p. 318<sup>7</sup>.

*Phalæna imperatoria*, Abbot & Smith, Lep. Georgia, ii. p. 109, t. 55 (1797)<sup>8</sup>.

*Bombix didyma*, Palis. de Beauv. Ins. Afr. et Amér. p. 52, t. 20 (1805)<sup>9</sup>.

*Hab.* NORTH AMERICA, New York<sup>1 3</sup>, Virginia<sup>7 9</sup>, Georgia<sup>2 6 7 8</sup>.—MEXICO, Jalapa (*M. Trujillo*).

Two specimens from Jalapa, almost identical with others from the United States in my own collection.

**Eacles mexicana** (I. p. 169).

To the localities given, add:—MEXICO, Orizaba (*Boucard, in mus. D.*), Coatepec (*Brooks*); GUATEMALA, in the city (*Rodriguez*); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).



**Eacles splendens** (I. p. 169). (Tab. LXXIX. fig. 11, ♀.)

To the Mexican locality given, add:—near Durango city (*Becker*), State of Jalisco (*Richardson*), Amula in Guerrero 6000 feet (*H. H. Smith*).

The female, of which we have received a specimen from Amula, is considerably larger than the male, and has the wings darker, with the white spots slightly smaller.

4. **Eacles ormondei**. (Tab. LXXIX. fig. 10, ♂.)

*Eacles ormondei*, Schaus, Ent. Amer. v. p. 192 (♀) (1889)<sup>1</sup>; Journ. New York Ent. Soc. iv. p. 154 (♂) (1896)<sup>2</sup>.

*Hab.* MEXICO, Coatepec<sup>1</sup>, Orizaba<sup>2</sup> (*coll. Schaus, Brooks*).

Our figure is taken from the fine male example captured by Mr. Schaus at Orizaba. According to him the two sexes scarcely differ.

5. **Eacles masoni**. (Tab. LXXIX. fig. 9, ♂.)

*Eacles masoni*, Schaus, Journ. New York Ent. Soc. iv. p. 154 (♂) (Dec. 1896)<sup>1</sup>.

*Hab.* MEXICO, Orizaba (*coll. Schaus*<sup>1</sup>).

We figure Mr. Schaus's type.

6. **Eacles azteca**. (Tab. LXXX. fig. 1, ♂.)

*Citheronia azteca*, Schaus, Journ. New York Ent. Soc. iv. p. 59 (♂ ♀) (June 1896)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>; *Höge, in mus. Staudinger*), Orizaba (*Boucard, in mus. D.*).

A specimen from Orizaba is figured. The female is similar to the male, but very much larger.

7. **Eacles aroa**. (Tab. LXXX. fig. 4, ♀.)

*Citheronia aroa*, Schaus, Journ. New York Ent. Soc. iv. p. 59 (♀) (June 1896)<sup>1</sup>.

*Hab.* HONDURAS (*Wittkugel, in mus. Staudinger*).—VENEZUELA, Aroa<sup>1</sup>.

The male only was known to Mr. Schaus. The female figured is from Dr. Staudinger's collection. *E. aroa* is allied to *E. mexicana*.

## DRYOCAMPA (I. p. 170).

**Dryocampa dissimilis** (I. p. 170).

To the localities given, add:—MEXICO, Durango city (*Becker*), Orizaba (*Boucard, in mus. D.*), Coatepec (*Brooks*); GUATEMALA, in the city (*Rodriguez*).

The only specimen seen from Guatemala is a female.

## ADELOCEPHALA (I. p. 170).

**Adelocephala isias** (I. p. 171).

To the locality given, add:—MEXICO, State of Jalisco (*Richardson*); COSTA RICA (*mus. Staudinger*).

**Adelocephala albolineata** (I. p. 171).

To the localities given, add:—MEXICO, State of Jalisco (*Richardson*), Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*); GUATEMALA, in the city (*Rodriguez*).

In the two specimens received from Guatemala the primaries are pale yellow, not shaded with brown as in the Mexican examples.

**Adelocephala quadrilineata** (I. p. 171).

To the locality given, add:—MEXICO, Jalapa (*M. Trujillo*), Coatepec (*Brooks*), Orizaba (*Boucard, in mus. D.*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

Varies in the colour of the primaries from yellow to reddish-brown.

**Adelocephala jason** (I. p. 171).

To the locality Mexico, add:—Coatepec (*Brooks*), Orizaba (*Flohr*), Jalapa (*M. Trujillo*).

**8. Adelocephala fallax.**

*Othorene fallax*, Boisd. Ann. Soc. Ent. Belg. xv. p. 84, t. 3. fig. 3 (1872)<sup>1</sup>.

*Adelocephala fallax*, Kirby, Cat. Lep. Het. i. p. 741<sup>2</sup>.

*Hab.* MEXICO, Coatepec (*Brooks*), Orizaba (*Boucard, in mus. D.*); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).—BRAZIL<sup>1 2</sup>.

**9. Adelocephala cadmus?**

*Adelocephala cadmus*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 9, 60, 78, figg. 77, 78<sup>1</sup>; Walk. Cat. vi. p. 1499<sup>2</sup>.

*Othorene cadmus*, Boisd. Ann. Soc. Ent. Belg. xv. p. 83 (1872)<sup>3</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*); GUATEMALA, in the city (*Rodriguez*).—BRAZIL<sup>1 2 3</sup>.

The Central-American specimens are considerably smaller than Herrich-Schäffer's figures, and also have slightly broader primaries.

ANISOTA (to precede the genus *Syssphinx*, I. p. 172).

*Anisota*, Hübner, Verz. bek. Schmett. p. 192 (1816).



1. **Anisota suprema.**

*Anisota suprema*, H. Edwards, Papilio, iv. pp. 16 (♂), 102 (larva) (1884)<sup>1</sup>.

*Hab.* MEXICO, State of Vera Cruz (*Schaus*<sup>1</sup>).

## SYSSPHINX (I. p. 172).

**Syssphinx molina** (I. p. 172).

To the localities given, add:—MEXICO, Coatepec (*Brooks*), Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood*).

## COPAXA (I. p. 173).

**Copaxa decrescens** (I. p. 173).

To the localities given, add:—MEXICO, Orizaba (*Boucard, in mus. D.*), Coatepec (*Brooks*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

**Copaxa multifenestrata** (I. p. 173). (Tab. LXXX. fig. 6, ♀: yellow form.)

*Copaxa satellitia*, Walk. Cat. xxxii. p. 527 (♂) (1865)<sup>1</sup>.

Subsp. *Copaxa multifenestrata rufotincta*, Rothsch. Novit. Zool. ii. p. 40 (1895)<sup>2</sup>.

To the localities given, add:—MEXICO, Atoyac in Vera Cruz (*Schumann*); GUATEMALA, in the city (*Rodriguez*); HONDURAS, San Pedro Sula (*Wittkugel, in mus. D.*).—COLOMBIA, Bogota<sup>1</sup>.

The numerous specimens of this species before me vary in colour from dark brown to pale yellow, hardly any two of them being exactly alike. We are indebted to the Hon. Walter Rothschild for the loan of his type of *C. multifenestrata rufotincta*, from Panama, whence I have already recorded the insect. Dr. Staudinger, too, has communicated an example under the MS. name of *Copaxa chorias*, Maass.

2 (A). **Copaxa trimacula.**

*Copaxa trimacula*, Rothsch. Novit. Zool. ii. p. 40 (1895)<sup>1</sup>.

*Hab.* CENTRAL AMERICA<sup>1</sup>.

Described from two very old and broken specimens from the Felder Collection, without any locality-tickets attached. The locality requires confirmation.

3 (A). **Copaxa syntheratoides.** (Tab. LXXX. fig. 5, ♂.)

*Copaxa syntheratoides*, Rothsch. Novit. Zool. ii. p. 40 (1895)<sup>1</sup>.

*Hab.* PANAMA, Volcan de Chiriqui \* (*mus. Staudinger*<sup>1</sup>).

Probably not different from *C. simson*, Maass. & Weym., which also is from Panama.

\* The locality is given as "Volcan de Chiriqui, Costa Rica."

**Copaxa trötschi** (I. p. 174).

To the locality given, add:—MEXICO, Jalapa (*M. Trujillo*), Coatepec (*Brooks*), Orizaba (*Boucard, in mus. D.*).

**Copaxa expandens** (I. p. 174).

To the localities given, add:—MEXICO, Orizaba (*Boucard, in mus. D.*).

This insect is probably another form of *C. multifenestrata*.

**Copaxa lavendera** (I. p. 174).

Mr. Schaus informs me that he has bred this insect, and that *C. (Saturnia) lavendera*, Westw., is the female of *Antheræa (Saturnia) chapata*, Westw.; both were described in 1853.

**7. Copaxa denda.** (Tab. LXXX. figg. 2, ♂; 3, ♀.)

*Copaxa denda*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 178 (♂ ♀) (1894)<sup>1</sup>.

*Male.* Primaries and secondaries citron-yellow; the primaries with the costal margin greyish to beyond the middle, a reddish-brown waved line crossing the wing near the base from the costal to the inner margin, a small hyaline spot edged with dark grey at the end of the cell, and a blackish-brown line extending from the apex to about the middle of the inner margin, the wing on the inner side of the line being shaded with reddish-yellow, the fringe yellow; the secondaries crossed above the middle by a blackish-brown line, and below the hyaline spot at the end of the cell by a waved reddish-brown line, the outer margin shaded with grey, the fringe dark yellow; underside pale brown, both wings crossed by two indistinct brown bands: head, thorax, and abdomen yellow, the front of the thorax greyish-brown; antennæ pale brown; legs pinkish-brown.—*Female.* Similar to the male, but considerably darker and with all the markings much blacker. Expanse, ♂  $4\frac{3}{10}$ , ♀  $4\frac{1}{2}$  inches.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*<sup>1</sup>), Jalapa (*M. Trujillo*).

Allied to *C. expandens*, Walk. The types from Orizaba are figured.

SATURNIA (to follow the genus *Sagana*, I. p. 175).

*Saturnia*, Schrank, Fauna Boica, ii. 1, p. 149 (1802); Walker, Cat. vi. p. 1268; Kirby, Cat. Lep. Het. i. p. 772.

**1. Saturnia galbina.**

*Saturnia galbina*, Clem. Proc. Acad. Phil. 1860, p. 156<sup>1</sup>; Streck. Lep. p. 104, t. 12. figg. 4 (♂), 5 (♀) (1875)<sup>2</sup>; Maass. & Weymer, Beitr. zur Schmett. v. fig. 104 (1886)<sup>3</sup>.

*Hab.* NORTH AMERICA, Texas<sup>1 2</sup>.—MEXICO<sup>3</sup>, Durango city (*Becker*), Chihuahua city (*Höge*).

## AUTOMERIS (I. p. 175).

**Automeris janus** (I. p. 176).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); HONDURAS, San Pedro Sula (*Wittkugel, in mus. D.*).



3 (A). **Automeris nopaltzin.** (Tab. LXXXI. fig. 3, ♀.)

*Automeris nopaltzin*, Schaus, P. Z. S. 1892, p. 290<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*<sup>1</sup>); COSTA RICA (*mus. Staudinger*).

Mr. Schaus states that this species is allied to *A. rubrescens*, Walk. We figure the type.

3 (B). **Automeris moloneyi**, sp. n. (Tab. LXXXI. figg. 1, ♂; 2, ♀.)

*Male.* Primaries brownish-yellow, the base and a spot at the end of the cell purple-brown, a zigzag narrow brown line, edged with yellow on the outer side, crossing the wing near the base from the costal to the inner margin, beyond which a nearly straight brown line, edged with yellow on the inner side, extends from near the apex to the inner margin, the apex and the costal margin slightly irrorated with small white scales, and a very faint submarginal waved yellow line running from the apex to the anal angle; secondaries dark brick-red, the outer margin pale brownish-yellow, a fine submarginal black line edged with yellow extending from the apex to the inner margin, the ocellus small, bordered first with black and then with bright yellow, the centre black, irrorated with white scales, and with a white streak across the middle; underside brownish-yellow, the primaries crossed beyond the cell by two pinkish lines and with a large black spot at the end of the cell, the secondaries crossed from the apex to the inner margin by a pinkish line and with a white spot at the end of the cell: head, antennæ, and thorax dark brown, the abdomen yellowish-brown.—*Female.* Primaries dark reddish-brown, irrorated with white scales along the outer margin, in other respects as in the male; secondaries very like those of the male, but with the outer margin thickly irrorated with white scales; the underside much darker. Expanse, ♂ 3, ♀ 3½ inches.

*Hab.* BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

This species is very distinct from any other known to me, and I have much pleasure in naming it after Sir Alfred Moloney, to whom I am indebted for the specimens.

3 (C). **Automeris randa.** (Tab. LXXXI. figg. 4, ♂; 5, ♀.)

*Automeris randa*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 179 (♂ ♀) (1894)<sup>1</sup>.

*Male.* Primaries light greyish-fawn-colour, crossed from the costal to the inner margin by two yellow lines—the first waved, nearest the base, the second beyond the middle, slightly curved near the apex,—and with a dark spot at the end of the cell, four little black dots round it, and a sinuous pale line towards the outer margin; secondaries pinkish-yellow, the ocellus large and fawn-coloured, broadly bordered with deep black, with a central white spot slightly below the middle and nearest the apex, a submarginal broken black line edged with yellow extending from near the apex almost to the anal angle, and below the black line a wide reddish-fawn-coloured band, the outer margin broadly edged with fawn-colour; the fringe pale fawn-colour; the underside yellowish-fawn-colour, the primaries with a large round black spot at the end of the cell, with a white dot in the centre, the secondaries with a white spot at the end of the cell: head and thorax dark reddish-brown; abdomen pale yellow; antennæ yellowish-brown.—*Female.* Very similar to the male, but larger and rather darker, with all the markings more distinct. Expanse, ♂ 4, ♀ 4½ inches.

*Hab.* MEXICO, near Durango city (*Becker*<sup>1</sup>); PANAMA, Volcan de Chiriqui (*Tröttsch, in mus. Staudinger*).

Allied to *A. rubrescens*, Walk., but quite distinct.

**Automeris cecrops** (I. p. 178).

To the locality given, add:—MEXICO, Puebla (*F. D. G.*); PANAMA, Volcan de Chiriqui (*Tröttsch, in mus. Staudinger*).

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3 hh

Mr. Godman sent me some pupæ of this species from Puebla, and the moths emerged some weeks afterwards.

**Automeris montezuma** (I. p. 178).

*Automeris crudelis*, anteà, i. p. 181 (no. 20).

To the localities given, add:—MEXICO, Coatepec (*Brooks*), Orizaba (*Boucard*, in *mus. D.*), Teapa in Tabasco (*H. H. Smith*); PANAMA, Chiriqui (*Trötsch*, in *mus. Staudinger*).

The name *A. crudelis* (Maass. & Weym.) must be sunk as a synonym of *A. montezuma*, Boisd.

**Automeris boucardi** (I. p. 178).

To the locality given, add:—MEXICO, Jalapa (*M. Trujillo*), Coatepec (*Brooks*); COSTA RICA, Candelaria Mts. (*Underwood*).

**Automeris zozine** (I. p. 179).

To the locality given, add:—MEXICO, Coatepec (*Brooks*); GUATEMALA (*mus. Staudinger*).

14 (A). **Automeris daudiana**. (Tab. LXXXI. fig. 8, ♂.)

*Automeris daudiana*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 179 (1894)<sup>1</sup>.

*Male*. Primaries pale greyish-brown, dark brown at the base, with four small spots at the end of the cell and a narrow curved line extending from the costal to the inner margin dark brown, the veins yellow, the fringe greyish-brown; secondaries bright yellow, the costal and outer margins broadly bordered with greyish-brown, the inner margins thickly clothed from the base almost to the anal angle with reddish hairs, a large black ocellus with a bluish-white centre at the end of the cell, and two rather wide black submarginal lines extending from near the apex to the inner margin, the fringe pinkish-brown; the underside pale pinkish-brown, the costal margin of the primaries and the veins yellow, the primaries with a large black spot at the end of the cell: head and thorax dark brown, the head in front and the antennæ and palpi reddish-brown, the abdomen bright red. Expanse  $2\frac{1}{2}$  inches.

*Hab.* GUATEMALA, in the city (*Rodriguez*<sup>1</sup>).

One specimen.

19 (A). **Automeris iris**. (Tab. LXXXI. fig. 6, ♂.)

*Automeris hebe*, anteà, i. p. 181 (part.).

*Hab.* MEXICO, Durango city (*Becker*), Oaxaca (*Sallé*).

In the National Collection *A. hebe* and *A. iris* (Walk.) are placed as sexes of the same species. We now have a male of *A. iris* (Walk.), which proves it to be distinct. Walker's types of both insects were from Oaxaca (*Sallé*).

**Automeris eogena** (I. p. 182).

To the locality Mexico, add:—Durango city (*Becker*).

One specimen, almost identical with Felder's figure.



**Automeris io** (I. p. 182).

To the localities given, add :—HONDURAS, San Pedro Sula (*Wittkugel, in mus. D.*).

**Automeris mendosa** (I. p. 182).

Mr. Schaus informs me that he captured an example of this species at Rio Janeiro. The insect was described from a specimen supposed to come from Mexico or Colombia.

**26. Automeris phrynon**, sp. n. (Tab. LXXXI. fig. 7, ♂.)

*Male*. Primaries and secondaries bright chrome-yellow; the primaries crossed by a pale yellow band, the apical part of the wing shaded with brown, the tip irrorated with a few greyish scales, a faint submarginal greyish line extending from the apex to the anal angle; the underside uniformly chrome-yellow: head, thorax, abdomen, and legs chrome-yellow, the antennæ black. Expanse  $3\frac{1}{2}$  inches.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

**27. Automeris orneates**, sp. n. (Tab. LXXXII. figg. 1, ♂; 2, ♀.)

*Male*. Primaries dark reddish-brown, crossed about the middle by a wide paler brown band, a greyish-black mark at the end of the cell and a fine greyish submarginal line extending from the apex to the anal angle; secondaries brownish-black, with the outer margin from the apex to the anal angle yellowish-brown, the ocellus black, edged with yellowish-brown, and with a white streak in the middle: the underside of the primaries chrome-yellow, with the costal margin, apex, inner margin, and base dark brown, reddish-brown on the costal margin near the apex, and with a large elongate black spot at the end of the cell; that of the secondaries dark reddish-brown, with a small white dot at the end of the cell: head, antennæ, thorax, abdomen, and legs brown, the anus yellowish-brown.—*Female*. Primaries dark reddish-brown, thickly irrorated with pinkish-grey scales, which form a wide band across the middle of the wing, a submarginal narrow greyish line edged on the outer side with a few yellow scales extending from near the apex to the anal angle; secondaries very similar to those of the male, but of a redder-brown colour: the underside reddish-brown, with the veins yellowish-brown, the primaries with a black line at the end of the cell: head and thorax dark reddish-brown, the antennæ, abdomen, and legs yellowish-brown. Expanse, ♂  $3\frac{1}{2}$ , ♀  $4\frac{3}{4}$  inches.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

This fine species is nearest allied to *A. phrynon*, which Dr. Staudinger thinks may be an extreme form of the same insect; but in this I cannot agree with him.

## GAMELIA (I. p. 183).

**Gamelia anableps** (I. p. 183).

To the localities given, add :—PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

**3. Gamelia auletes**.

*Hyperchiria auletes*, Herr.-Schäff. Samml. aussereur. Schmett. p. 61, figg. 96, 97<sup>1</sup>.

*Io auletes*, Herr.-Schäff. loc. cit. p. 78<sup>2</sup>; Boisd. Ann. Soc. Ent. Belg. xviii. p. 241<sup>3</sup>.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).—GUIANA, Surinam<sup>3</sup>; BRAZIL<sup>1</sup>.

EULEUCOPHÆUS (to follow the genus *Gamelia*, I. p. 184).

*Euleucophæus*, Packard, Rep. Peabody Acad. iv. p. 88 (1872).

1. *Euleucophæus mania*, sp. n. (Tab. LXXXII. figg. 5, ♂; 6, ♀.)

*Male*. Primaries very pale greyish-brown, crossed from the costal to the inner margin by two wide white bands, the discal spot white, the costal margin from the base to the apex yellow, the fringe and inner margin white; secondaries pure white, with a few rose-coloured hairs on the inner margin close to the base; the underside generally paler than above, and with one white band only on the primaries: head, antennæ, and legs greyish-brown, the thorax greyish-white, the abdomen reddish-yellow.—*Female*. Primaries dull pinkish-brown, with the bands fainter and the costal margin bright yellow; secondaries pale pinkish-brown, darker at the apex and round the outer margin, a very indistinct white submarginal line extending from the apex to the inner margin; the fringe greyish-white: head and front of the thorax clothed with long white hairs, the thorax and abdomen reddish-yellow, the legs yellow. Expanse, ♂  $2\frac{1}{4}$ , ♀  $3\frac{1}{2}$  inches.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*).

Three males and two females.

2. *Euleucophæus norba*, sp. n. (Tab. LXXXII. figg. 7, ♂; 8, ♀.)

*Male*. Primaries pale greyish-brown, darker at the base, the costal margin and all the veins yellow, two white lines crossing the wing from the costal to the inner margin; secondaries very pale pinkish-brown, with a submarginal indistinct white line extending from the apex to the inner margin, the veins yellow, the fringe greyish; the underside very much as above, but brighter in colour, the primaries without white lines: head and thorax reddish-brown, thickly streaked with greyish-white hairs; antennæ yellow; abdomen reddish-yellow, rose-colour at the base, the underside greyish.—*Female*. Primaries and secondaries dark greyish-brown, with the costal margin and the veins bright yellow, the white lines crossing the primaries narrow and rather indistinct; the underside very much as above, but without the white lines on the primaries: head, antennæ, and thorax greyish-brown; abdomen reddish-yellow, with a few greyish hairs on each segment. Expanse, ♂  $2\frac{1}{4}$ , ♀  $2\frac{3}{4}$  inches.

*Hab.* MEXICO (*Notni, in coll. Staudinger: ♀*), Amecameca in Morelos (*coll. Schaus: ♂*).

3. *Euleucophæus lares*, sp. n. (Tab. LXXXII. fig. 3, ♂.)

*Male*. Primaries dull fawn-colour, crossed by two nearly straight greyish-white lines, a small elongate white spot at the end of the cell, the base of the wing clothed with rose-coloured hairs, the fringe fawn-colour; secondaries dusky white, the apex, outer margin, and an indistinct central band brownish-grey; the underside as above, but with all the veins of the primaries yellow: head and thorax dark brown, the antennæ reddish-brown; abdomen dull yellow, thickly clothed with rose-coloured hairs at the base; legs yellowish-brown. Expanse  $2\frac{1}{4}$  inches.

*Hab.* MEXICO, Durango city (*Becker*).

4. *Euleucophæus lex*, sp. n. (Tab. LXXXII. fig. 4, ♂.)

*Male*. Primaries dark grey, slightly irrorated with white scales, and with an elongated discal spot, the outer half of the costal margin also white, two white lines crossing the wing from the costal to the inner margin—the first curved inwards to the base, the second very slightly waved,—the fringe on the outer and inner margins white; secondaries pinkish-white, with a wide submarginal white band extending from the apex to the anal angle, the fringe white; the underside as above, but with the primaries shaded with rose-pink, the veins also pink: head and thorax dark brown, with a few greyish hairs; the antennæ and legs yellowish; abdomen reddish-brown above, white beneath. Expanse  $2\frac{1}{4}$  inches.

*Hab.* MEXICO, Durango city (*Becker*).



5. **Euleucophæus numa**, sp. n. (Tab. LXXXII. figg. 10, ♀; 11, ♂.)

*Male*. Primaries pinkish-brown, crossed from the costal to the inner margin by two pinkish-white lines—the first curved inwards about the middle, the second almost straight,—the costal margin bright yellow from the base to the apex, the fringe brown; secondaries pinkish-brown; the underside as above, but with the primaries much redder in colour: head and thorax brown, with some long greyish hairs, the antennæ yellow; abdomen above yellow, beneath dark brown banded with white.—*Female*. Very like the male, but with the lines crossing the primaries faint, and all the veins on both wings dark brown. Expanse, ♂ 1  $\frac{3}{4}$ , ♀ 3 inches.

*Hab.* MEXICO (*Notni*, in *mus. Staudinger*: ♀), Mexico city (*coll. Schaus*: ♂).

6. **Euleucophæus nitria**, sp. n. (Tab. LXXXII. fig. 9, ♂.)

*Male*. Primaries and secondaries dark smoky-brown, the primaries crossed by two white lines which extend from the costal to the inner margin, the costal margin yellow, the veins on the underside of both wings yellow: head rose-colour, the antennæ yellow; thorax thickly clothed with blackish and white hairs; abdomen above yellow, beneath greyish with some red hairs at the base. Expanse 2  $\frac{1}{4}$  inches.

*Hab.* MEXICO (*Höge*, in *mus. Staudinger*).

HEMILEUCA (to follow the genus *Hyperchiria*, I. p. 184).

*Hemileuca*, Walker, Cat. vi. p. 1317 (1855).

*Euchronia*, Packard, Proc. Ent. Soc. Phil. iii. p. 382 (1864).

1. **Hemileuca rubridorsa**.

*Hemileuca rubridorsa*, Feld. Reise der Novara, Lep. t. 90. fig. 2, Erkl. der Taf. 75–107, p. 5 (1874)<sup>1</sup>;

Kirby, Cat. Lep. Het. i. p. 784 \*<sup>2</sup>.

*Hab.* MEXICO (*Bilimek*<sup>1</sup>).

ANTHERÆA (I. p. 184).

**Antheræa chapata** (I. p. 185).

♀. *Copaxa lavandera*, anteà, i. p. 174.

To the Mexican localities given, add:—Orizaba (*Boucard*, in *mus. D.*).

ARSENURA (I. p. 185).

**Arsenura erythrinæ** (I. p. 185).

To the localities given, add:—MEXICO, Orizaba (*Boucard*, in *mus. D.*), San Lorenzo (*M. Trujillo*), Coatepec (*Brooks*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney*, in *mus. D.*); GUATEMALA, in the city (*Rodriguez*).

4. **Arsenura richardsoni**. (Tab. LXXXIII. fig. 1.)

*Arsenura richardsoni*, Druce, Ann. & Mag. Nat. Hist. (6) v. p. 215 (1890)<sup>1</sup>.

Primaries and secondaries brownish-fawn-colour; the primaries shaded with dark brown along the inner margin and near the base, and with a rather large lunular brown spot edged with black at the end of the

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\* Mr. Kirby<sup>2</sup> incorrectly gives the locality as Venezuela.

cell; both wings thickly irrorated with small black dots and with a number of greyish scales near the base, and crossed from the apex to the inner margin by a submarginal rather wide waved black line, which is edged on the outer side by a narrow fawn-coloured line, their outer margins and the fringe pale reddish-brown; the primaries with a black elongated spot close to the apex, below which are three madder-brown markings; the base of both wings thickly clothed with fawn-coloured hairs; the underside pale fawn-colour, the primaries and secondaries with their outer half greyish-white, thickly irrorated with pale brown, and crossed by two indistinct brown lines, the outer margins and the fringe pale brown: head, thorax, abdomen, and legs brownish-fawn-colour, the antennæ yellowish-brown. Expanse  $5\frac{1}{2}$  inches.

*Hab.* MEXICO, Bolaños in Jalisco (*Richardson*<sup>1</sup>), Guadalajara (*Goldsmith, in mus. D.*).

In the shape of the wings this fine insect resembles *A. erythrinæ*, Merian, and in coloration it is rather like *Saturnia pandora*, Klug.

#### DRACONIPTERIS (I. p. 186).

##### **Draconipteris mirabilis** (I. p. 187).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

#### DYSDÆMONIA (to follow the genus *Eudæmonia*, I. p. 188).

*Dysdæmonia*, Hübner, Verz. bek. Schmett. p. 151 (1816); Walker, Cat. vi. p. 1328.

##### 1. **Dysdæmonia boreas**.

*Phalæna Bombyx Attacus boreas*, Cram. Pap. Exot. i. p. 110, t. 70. fig. B (1775)<sup>1</sup>.

*Dysdæmonia boreas*, Hübn. Verz. bek. Schmett. p. 151<sup>2</sup>; Walk. Cat. vi. p. 1329<sup>3</sup>.

*Hab.* MEXICO, Jalisco (*coll. Neumoegen*).—PERU; BRAZIL; ANTILLES<sup>1 3</sup>.

When I was in New York in November 1893 the late Mr. Berthold Neumoegen was kind enough to show me a large collection he had just received from Jalisco; in it there were numerous specimens of this species in fine condition.

#### ATTACUS (I. p. 189).

##### **Attacus hesperus** (I. p. 189).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*).

##### **Attacus lebeaui** (I. p. 190).

To the localities given, add:—MEXICO, Coatepec (*Brooks*); HONDURAS, San Pedro Sula (*Wittkugel, in mus. D.*); NICARAGUA, Matagalpa (*Richardson*).

##### **Attacus jorulla** (I. p. 190).

To the localities given, add:—MEXICO, Bolaños in Jalisco (*Richardson*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

##### **Attacus arethusa** (I. p. 191).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); HONDURAS, San Pedro Sula (*Wittkugel, in mus. D.*).



7. *Attacus* (?) *cydippe*. (Tab. LXXXIII. fig. 2, ♂.)

*Attacus* (?) *cydippe*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 178 (1894)<sup>1</sup>.

*Male*. Primaries and secondaries dark brown, thickly irrorated with reddish-brown scales; the primaries crossed from the apex to the inner margin by a dark brown line, on the inner side of which is an indistinct waved brown line, the apex and outer margin irrorated with grey scales, a submarginal waved greyish line extending from the apex to the anal angle and an elongated hyaline spot at the end of the cell, the fringe dark reddish-brown; the secondaries crossed above the middle by a very indistinct dark brown line, with an elongated hyaline spot at the end of the cell and two zigzag submarginal dark brown lines extending from the apex to the anal angle, the outer margin broadly irrorated with grey scales, the fringe dark reddish-brown; the underside greyer than above, and with the submarginal line much more distinct: head, thorax, and tegulæ dark brown, the abdomen pale brown, the base of the thorax and also that of the abdomen thickly clothed with reddish-brown hairs; antennæ brown; legs reddish-brown. Expanse  $3\frac{1}{2}$  inches.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*<sup>1</sup>).

One specimen.

TELEA (to follow the genus *Attacus*, I. p. 191).

*Telea*, Hübner, Verz. bek. Schmett. p. 154 (1816); Walker, Cat. v. p. 1225.

1. *Telea aurelia*. (Tab. LXXXIII. fig. 3, ♂.)

*Telea aurelia*, Druce, Ann. & Mag. Nat. Hist. (6) ix. p. 278 (♂) (1892)<sup>1</sup>.

*Male*. Primaries and secondaries pale fawn-colour; the primaries crossed from the costal to the inner margin by a very wide black band bordered on both sides with a waved black line, which is edged on the inner side with pink and white scales, the costal margin thickly irrorated with white scales from the base almost to the apex, the apex streaked with pink and white, with a rather large black spot on the costal margin, a large hyaline spot at the end of the cell bordered with reddish-fawn-colour and then broadly edged with black, the basal half of the black ring being thickly irrorated with bluish-white scales, a narrow, straight, fawn-coloured line extending from the costal margin near the apex to the inner margin above the anal angle; the secondaries with the central part dusky black, a large hyaline spot at the end of the cell very broadly bordered with deep black, which is thickly irrorated on the inner side with pale blue scales, a submarginal pale fawn-coloured line extending from the costal margin to the anal angle; the underside pale fawn-colour, thickly irrorated with white scales, with the markings very similar to those above, but of a darker brown colour: head and legs dark brown, the collar greyish-white, the antennæ yellowish-brown; thorax and abdomen pale fawn-colour, the thorax greyish-white in front and dark brown beneath. Expanse  $5\frac{3}{4}$  inches.

*Hab.* MEXICO, Durango city (*Becker*<sup>1</sup>).

SAMIA (I. p. 191).

*Samia calleta* (I. p. 191).

To the locality Mexico, add:—Durango city (*Becker*).

METOSAMIA (to follow the genus *Samia*, I. p. 191).

*Metosamia*, Druce, Ann. & Mag. Nat. Hist. (6) ix. p. 276 (1892).

*Male*. Head rather small; thorax broad; abdomen short and thick, not extending to the middle of the inner margin of the secondaries; antennæ very deeply pectinated, more so than in the genus *Samia*; palpi very minute; legs stout and rather short, thickly clothed with hairs; primaries with the costal margin strongly arched from the middle to the apex, which is very pointed, the outer margin deeply concave and dentated

between the veins, the anal angle rounded, the inner margin straight, the cell very broad and much shorter than in *Samia*; secondaries with the costal margin very much rounded to the apex, which is quite pointed, the outer margin deeply concave to the middle, then almost straight to the anal angle, dentated slightly between the veins, the inner margin slightly curved from the abdomen, the anal angle rounded.

Type *Metosamia godmani*.

*Saturnia montezuma*, Sallé, anteà, i. p. 191, also belongs to this genus.

### 1. *Metosamia godmani*. (Tab. LXXXIII. fig. 4, ♂.)

*Metosamia godmani*, Druce, Ann. & Mag. Nat. Hist. (6) ix. p. 277<sup>1</sup>.

*Male*. Primaries and secondaries uniform bright orange-brown; the primaries with nearly two-thirds of the costal margin broadly edged with greyish-brown, thickly irrorated with white scales, a large white spot at the base close to the thorax, a large V-shaped white mark at the base of the cell, and a large hyaline oval spot at the end of the cell bordered with pale yellow and edged with a very fine black line, a pinkish-white line partly crossing the wing near the base, and a rather wide black submarginal line edged with pinkish-white scales extending from the costal margin near the apex to the inner margin just above the anal angle; the secondaries crossed below the middle from the costal margin to the anal angle by a black line corresponding to the one on the primaries, but only edged with pinkish-white scales from the end of the cell to the anal angle, and with a small hyaline spot at the end of the cell broadly bordered with pale yellow and edged with a rather wide black line, the black line on the inner side being divided into two by a narrow line of bluish-white scales; the underside reddish-brown, thickly irrorated round the outer margins and at the base of the secondaries with black and pinkish-white scales: head, front of the thorax, and base of the tegulae greyish-brown, clothed with scattered white hairs; the rest of the thorax and tegulae, the abdomen, and legs bright orange-brown; the antennae pale yellowish-brown. Expanse 7 inches.

*Hab.* MEXICO, Oaxaca (*F. D. Godman*<sup>1</sup>), Jalapa (*M. Trujillo*).

A specimen of this grand insect was obtained by Mr. Godman during his visit to Mexico, and several others have since been received from the same country. Its differences from *M. montezuma* will be seen at once by a glance at our figures.

### 2. *Metosamia montezuma*. (Tab. LXXXIV. fig. 3, ♂.)

*Samia montezuma*, anteà, i. p. 191.

To the Mexican locality given, add:—Durango city (*Becker*).

The female is very similar to the male.

## RHESCYNTIS (I. p. 191).

### 1. *Rhescyntis norax*, sp. n. (Tab. LXXXIV. fig. 2, ♂.)

*Rhescyntis hippodamia*, anteà, i. p. 192 (part.) (nec Cram.).

*Male*. Similar to *R. hippodamia* (Cram.), but with the bands crossing the wings in a different position, the outer margins of both primaries and secondaries much straighter, the pale submarginal line on the secondaries angular (not rounded as in *R. hippodamia*), and the spots on the outer side of the submarginal pale line very much larger; the underside of the primaries with one brown line only (instead of two) crossing the wing. Expanse 7 inches.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

As this insect, of which I have now seen several specimens, seems to differ constantly from the southern *R. hippodamia*, I have given it a separate name.



PREPTOS (to precede the genus *Molippa*, I. p. 192).

*Preptos*, Schaus, P. Z. S. 1892, p. 318; Canad. Ent. xxvii. p. 94 (1895).

1. *Preptos oropus*. (Tab. LXXXIV. fig. 1, ♀.)

*Preptos oropus*, Schaus, P. Z. S. 1892, p. 319 (♀)<sup>1</sup>.

*Tagora corax*, Druce, P. Z. S. 1893, p. 298 (♀)<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>, *M. Trujillo*<sup>2</sup>); HONDURAS (*Wittkugel, in mus. Staudinger*).

I have seen three specimens only of this species, all females. We figure one from Jalapa.

## MOLIPPA (I. p. 192).

1. *Molippa sabina*.

*Molippa sabina*, Walk. Cat. vi. p. 1345 (1855)<sup>1</sup>.

*Molippa nibasa*, anteà, i. p. 192<sup>2</sup>.

It is probable that there is some mistake about the locality quoted ("Mexico") for *M. nibasa*, as the insect proves to be inseparable from the South-American *M. sabina*, originally recorded<sup>1</sup> from Brazil.

## PHRICODIA (I. p. 192).

*Phricodia avia* (I. p. 192).

To the localities given, add :—MEXICO, Jalapa (*M. Trujillo*).

*Phricodia hircia* (I. p. 192).

To the localities given; add :—HONDURAS (*Wittkugel, in mus. Staudinger*).

## ORMISCODES (I. p. 193).

*Ormiscodes agis* (I. p. 193).

To the localities given, add :—PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

*Ormiscodes lasiocampina* (I. p. 193).

To the locality Mexico, add :—Sierra Madre de Tepic (*Richardson*).

3. *Ormiscodes nora*, sp. n. (Tab. LXXXV. fig. 1, ♀.)

*Female*. Primaries pale pinkish-fawn-colour, crossed about the middle from the costal to the inner margin by a wide dark brown band, which becomes quite narrow on the inner margin, and with a suffused slightly paler band beyond it, the fringe brown; secondaries pale pinkish-fawn-colour, with the outer margin from the apex to the anal angle considerably paler, the base of the wing clothed with yellowish hairs; the underside yellowish-brown, with the outer margins pink, both wings crossed beyond the middle from

the costal to the inner margin by a rather wide pink line: head, antennæ, thorax, abdomen, and legs yellowish-brown, the abdomen banded with black on the upperside. Expanse  $4\frac{1}{2}$  inches.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

4. **Ormiscodes manes**, sp. n. (Tab. LXXXV. fig. 2, ♂.)

*Male.* Primaries dark brown, with a pinkish shade near the apex, a black spot at the end of the cell, and two black lines crossing the wing beyond the middle from the costal margin near the apex to the inner margin—the first line nearly straight, with a few greyish scales on the inner side, the second line waved, joining the first in the middle and at the anal angle; secondaries pinkish-brown, with an oval black spot at the end of the cell and a wide submarginal black band extending from the apex to the anal angle, the fringe black; the underside uniformly pinkish-brown, with the black bands and lines very indistinct: head, antennæ, and thorax dark brown, the abdomen above deep black, the anus and the underside of the thorax and abdomen rose-colour, the legs blackish-brown. Expanse 4 inches.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*).

One specimen.

DIRPHIA (I. p. 194).

**Dirphia semirosea** (I. p. 194).

To the localities given, add:—MEXICO, Guadalajara in Jalisco (*Goldsmith, in mus. D.*).

**Dirphia fumosa** (I. p. 194).

To the locality Mexico, add:—Chilpancingo in Guerrero (*H. H. Smith*), Oaxaca (*coll. Schaus*).

**Dirphia rosea** (I. p. 195).

To the Mexican locality given, add:—Coatepec (*Brooks*), Atoyac in Vera Cruz (*H. H. Smith*), Temax in Northern Yucatan (*Gaumer*).

9. **Dirphia mæonia**, sp. n. (Tab. LXXXV. fig. 3, ♂.)

*Male.* Primaries pale brown, the base, a wide band crossing the wing beyond the middle from the costal margin near the apex to the anal angle, the apex, part of the outer margin, the veins, and a spot at the end of the cell dark brown, a curved yellow line edged with white on the outer side crossing the wing near the base, and a second yellow line edged with white on the inner side extending from the apex to the middle of the inner margin, the fringe dark brown; secondaries very pale brown, with the veins and the base dark brown, the middle portion of the wing yellow, with a large brown spot edged with black at the end of the cell, below which is a curved black line extending from the costal to the inner margin; the underside pale brown, clouded with black: head and thorax dark brown, the abdomen and legs rose-colour, the antennæ and anus yellow. Expanse  $3\frac{1}{2}$  inches.

*Hab.* MEXICO, Jalisco (*coll. Schaus*).

HYLESIA (I. p. 196).

**Hylesia falcifera** (I. p. 196).

To the localities given, add:—MEXICO, Teapa in Tabasco (*H. H. Smith*).



**Hylesia continua** (I. p. 196).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

**Hylesia alinda** (I. p. 197).

To the localities given, add:—MEXICO, Jalapa (*F. D. G., M. Trujillo*).

**Hylesia acuta** (I. p. 197).

To the locality given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); GUATEMALA, in the city (*Rodriguez, in coll. Candèze*).

## OXYTENIS (I. p. 198).

**Oxytenis honesta** (I. p. 198).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); HONDURAS, San Pedro Sula (*Wittkugel, in mus. D.*).

## LONOMIA (I. p. 199).

**Lonomia cynira** (I. p. 199).

To the localities given, add:—MEXICO, Atoyac in Vera Cruz (*Schumann*).

**Lonomia concordia** (I. p. 200).

To the locality given, add:—MEXICO, Jalapa (*M. Trujillo*).

The Mexican specimen is a female; it is greyer in colour than the male, and also considerably larger.

**5. Lonomia obliqua.**

*Lonomia obliqua*, Walk. Cat. v. p. 1194<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Tröttsch, in mus. Staudinger*).—BRAZIL, Rio Janeiro<sup>1</sup>.

One specimen, a female.

**6. Lonomia æneides**, sp. n. (Tab. LXXXV. figg. 4, ♂; 5, ♀.)

*Male.* Primaries brown, with a darker brown band crossing the wing about the middle from the costal to the inner margin, and a submarginal waved line of similarly-coloured spots extending from the apex to the inner margin, the apex of the wing irrorated with a few grey scales; secondaries pinkish-brown, with the outer margin and two faint lines below the middle darker brown; the underside uniformly pinkish-brown, the primaries crossed about the middle from the apex almost to the inner margin by a dark brown line, the secondaries crossed near the middle from the apex to the inner margin by a dark brown line, on both sides of which the wing is thickly irrorated with pinkish-white scales: head and thorax dark brown, the antennæ yellow, the abdomen and legs yellowish-brown.—*Female.* Very similar to the male,

but much darker, with the primaries and the outer margins of the secondaries thickly irrorated with greyish-white scales; the underside also greyer. Expanse, ♂ 2, ♀ 3 inches.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

*Nephodia* (?) *monacharia*, Maass. & Weym., is closely allied to this species, and it belongs to the same genus.

#### GLOVERIA (I. p. 202).

Messrs. Neumoegen and Dyar (Journ. New York Ent. Soc. ii. p. 158) sink the name *Gloveria* as a synonym of *Dendrolimus*, Germar.

#### *Gloveria olivacea* (I. p. 202).

To the localities given, add:—MEXICO, Orizaba (*Boucard, in mus. D.*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

#### *Gloveria venerabilis* (I. p. 202). (Tab. LXXXV. fig. 7, ♂.)

*Gloveria venerabilis*, H. Edwards, anteà, i. p. 202 (part., nec figg.).

The insect referred by me to *G. venerabilis*, and figured on Tab. XXII. under that name, proves to belong to a different species. We now figure a correctly determined specimen from Dr. Staudinger's collection; it is also from Mexico.

The type of *G. venerabilis* was from Jalapa.

#### 3 (A). *Gloveria edwardsi*, sp. n.

*Gloveria venerabilis*, anteà, i. p. 202, t. 22. figg. 18 (♂), 19 (♀) (part.) (nec H. Edwards).

*Hab.* MEXICO, Durango city (*Becker*), Orizaba (*Boucard, in mus. D.*).

As the differences between this insect and *G. venerabilis* will be easily seen by a reference to our figures, it is not necessary to give a detailed description.

#### *Gloveria jalapæ* (I. p. 202).

Messrs. Neumoegen and Dyar [Journ. New York Ent. Soc. ii. p. 152 (1894)] have made this species the type of a new genus, *Edwardsinemna*!

#### EUTRICA (to follow the genus *Lebeda*, I. p. 203).

*Eutrica*, Stephens, Illustr. Brit. Ent., Haust. ii. p. 50 (1829); Walker, Cat. vi. p. 1405.

#### 1. *Eutrica conradti*. (Tab. LXXXV. fig. 9, ♂.)

*Eutrica conradti*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 180 (1894) <sup>1</sup>.

*Male*. Primaries reddish-brown, crossed beyond the middle from the costal to the inner margin by several indistinct paler brown bands, and with three small black spots near the anal angle, the fringe brown; secondaries uniformly dark reddish-brown, the fringe slightly paler: head, antennæ, thorax, and abdomen reddish-brown, the legs dark brown. Expanse 3¼ inches.

*Hab.* GUATEMALA, Coban in Vera Paz (*Conradt* <sup>1</sup>).

One specimen.



2. **Eutricha crossæa.** (Tab. LXXXV. fig. 6, ♂.)

*Eutricha crossæa*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 180 (1894) <sup>1</sup>.

*Male*. Primaries and secondaries reddish-fawn-colour, the primaries crossed from the costal to the inner margin by a submarginal row of small dark brown spots: head, thorax, antennæ, abdomen, and legs reddish-brown, the anal tuft yellowish. Expanse  $2\frac{3}{4}$  inches.

*Hab.* MEXICO, Bolaños in Jalisco (*Richardson* <sup>1</sup>).

One specimen.

3. **Eutricha denda.** (Tab. LXXXV. fig. 10, ♂.)

*Eutricha denda*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 180 (1894) <sup>1</sup>.

*Male*. Primaries and secondaries very dark brown; the primaries with a small grey spot at the end of the cell, and crossed from the costal to the inner margin by five narrow, zigzag, pale greyish-brown lines—the first two close to the base, the third and fourth much beyond the middle, the fifth submarginal, with black points near the anal angle,—and with a reddish-brown band extending from near the apex to the inner margin above the anal angle, the fringe dark brown; the secondaries crossed about the middle by two faint reddish-brown lines, the fringe greyish; the underside dark brown, both wings thickly irrorated with grey scales and crossed from the costal to the inner margin by two waved greyish lines, the inner margin of the secondaries clothed with reddish-brown hairs: head, antennæ, thorax, abdomen, and legs dark brown. Expanse  $3\frac{1}{4}$  inches.

*Hab.* MEXICO, Jalapa (*M. Trujillo* <sup>1</sup>).

One specimen.

4. **Eutricha nox**, sp. n. (Tab. LXXXV. fig. 8, ♂.)

*Male*. Primaries and secondaries very dark blackish-brown, slightly reddish-brown at the base, the primaries with a few very indistinct pale brown spots near the apex and along the outer margin; the underside very much as above: head, antennæ, thorax, abdomen, and legs dark blackish-brown. Expanse  $3\frac{1}{2}$  inches.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

Allied to the Mexican *E. denda*.

## LASIOCAMPA (I. p. 203).

3. **Lasiocampa azteca.**

*Clisiocampa azteca*, Neum. Canad. Ent. xxv. p. 5 (♂ ♀) (1893)\*<sup>1</sup>.

*Hab.* MEXICO, Mexico city (*coll. Neumoegen* <sup>1</sup>; *F. D. G.*; *Höge*), Jalapa (*M. Trujillo*), Atoyac in Vera Cruz (*Schumann*).

The single specimen from Jalapa is much paler than any of the others before me, and it may belong to another species.

\* Messrs. Neumoegen and Dyar, in their "Preliminary Revision of the Bombyces of America north of Mexico" [Journ. N. York Ent. Soc. ii. p. 156 (1894)], record *Clisiocampa fragilis*, Stretch, var. *perlutea*, as from "Canada to Mexico"; but further particulars as to the precise locality in Mexico are required before this species can be included in our list. The same remark applies to some other Bombycids, the distribution of which is given in the same indefinite way by these authors; and unless the locality is given in Mexico they are excluded from this work.

## TOLYPE (I. p. 204).

2. **Tolype levana.** (Tab. LXXXVI. fig. 1, ♀.)

*Tolype levana*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 181 (1894)<sup>1</sup>.

Primaries and secondaries greyish-white; the primaries crossed from the costal to the inner margin by a considerable number of waved black lines, and with a black spot at the end of the cell, and a marginal row of black spots extending from the apex to the anal angle, the fringe alternately black and grey; the secondaries dusky at the base and beyond the middle: head, thorax, and abdomen greyish-black, the abdomen banded with grey. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*<sup>1</sup>); GUATEMALA, in the city (*Rodriguez*<sup>1</sup>).

3. **Tolype deboma.** (Tab. LXXXVI. fig. 3, ♀.)

*Tolype deboma*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 181 (1894)<sup>1</sup>.

Primaries pale grey, crossed from the costal to the inner margin by five white lines—the first two near the base, curved inwards, the third and fourth beyond the cell, waved, the fifth submarginal, waved,—and with the space between the fourth and fifth lines at the apex, and the outer side of the fourth line, clouded with black, the veins and fringe white; secondaries white, clouded with black at the anal angle, the fringe white: head, front of thorax, and tegulae white, the rest of the thorax black; abdomen white, the anal tuft yellowish; antennae and legs white. Expanse  $2\frac{3}{10}$  inches.

*Hab.* MEXICO, near Durango city (*Becker*<sup>1</sup>).

One specimen.

4. **Tolype iridescens.**

*Gastropacha iridescens*, Walk. Cat. xxxii. p. 549 (♂)<sup>1</sup>.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*).—COLOMBIA, Bogota<sup>1</sup>.

The single specimen received from Costa Rica, a female, is considerably larger than the type.

5. **Tolype hemira**, sp. n. (Tab. LXXXVI. fig. 2, ♂.)

*Male.* Primaries pale smoky-black, crossed from the costal to the inner margin by three dusky-white bands—the first close to the base, the second beyond the middle, the third near the outer margin,—the veins near the apex and along the outer margin white, the fringe dusky; secondaries uniformly dusky-black; the underside of both wings black, with a marginal white line: head, front of the thorax, and tegulae white, the base of the thorax and the upperside of the abdomen black, the underside white; antennae yellowish-brown. Expanse ♂  $1\frac{4}{10}$  inch.

*Hab.* MEXICO (*Mus. Brit.; mus. Staudinger*).

A male and two females of this species are contained in the British Museum.

6. **Tolype caieta**, sp. n. (Tab. LXXXVI. fig. 5, ♀.)

*Female.* Primaries white, crossed from the costal to the inner margin by six narrow waved pale brownish-black lines, the outer margin bordered with pale brownish-black, crossed by the white veins, a large elongated black spot at the end of the cell, the fringe alternately brownish-black and white; secondaries white, with a faint brownish spot at the anal angle: head, thorax, and abdomen white, the anus clothed with yellowish-brown hairs; antennae yellowish-brown. Expanse  $2\frac{3}{4}$  inches.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen.



7. *Tolyte brevicrista*.

*Tolyte brevicrista*, Dyar, Canad. Ent. xxvii. p. 246 (1895)<sup>1</sup>.

*Hab.* NORTH AMERICA, Las Cruces in New Mexico<sup>1</sup>, Arizona<sup>1</sup>.—? MEXICO<sup>1</sup>.

Unknown to me.

GASINA (I. p. 204).

2. *Gasina tympania*, sp. n. (Tab. LXXXVI. fig. 4, ♂.)

*Male*. Primaries and secondaries pale brown, the primaries with the costal margin and the spaces between the veins on the costal half of the wing streaked with white; the fringe of both wings pale brown: head, antennæ, and legs white, the thorax and abdomen brown. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*).

One specimen. Allied to *G. albicollis*, Walk., but differing from it in the absence of the white spots on the thorax and abdomen.

3. *Gasina* —?

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*).

Two worn males, apparently belonging to a distinct species.

4. *Gasina lanata*.

— — —, Merian, Surin. Ins. t. 19<sup>1</sup>.

*Phalæna Bombyx lanata*, Cram. Pap. Exot. iii. p. 131, t. 265. figg. F, G<sup>2</sup>; Oliv. Enc. Méth. v. p. 48<sup>3</sup>.

*Megalopyge lanata*, Möschl. Verh. zool.-bot. Ges. Wien, xxvii. p. 676<sup>4</sup>.

*Eriogaster* (?) *lanata*, Walk. Cat. vi. p. 1472<sup>5</sup>.

*Megalopyge lanifera*, Hübn. Verz. bek. Schmett. p. 185<sup>6</sup>.

*Phalæna Bombyx tharops*, Cram. Pap. Exot. iv. p. 133, t. 359. fig. A<sup>7</sup>.

*Phalæna citri*, Sepp, Surin. Vlind. i. p. 31, t. 12<sup>8</sup>.

*Podalia citri*, Walk. Cat. vii. p. 1715<sup>9</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Flohr*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney*, in *mus. D.*); PANAMA, Taboga I. (*Mathew*, in *mus. D.*).—GUIANA, Surinam<sup>1-5 7 8</sup>; BRAZIL, Rio Janeiro<sup>9</sup>.

5. *Gasina radiata*. (Tab. LXXXVI. fig. 6, ♂.)

*Megalopyge radiata*, Schaus, P. Z. S. 1892, p. 322 (♀)<sup>1</sup>.

*Hab.* MEXICO (*mus. Staudinger*).—BRAZIL, Petropolis<sup>1</sup>.

6. *Gasina agdamea*. (Tab. LXXXVI. figg. 7, ♂; 8, ♀.)

*Gasina agdamea*, Druce, Ann. & Mag. Nat. Hist. (6) v. p. 216 (1890)<sup>1</sup>.

*Male*. Primaries pale yellowish-brown, shaded with dark brown at the end of the cell and near the base, the costal margin white, the veins beyond the cell white, edged with dark brown, the inner margin yellowish-brown near the base; secondaries pale cream-colour, darker at the base and along the inner margin; the underside of both wings yellowish-white, almost yellow at the base, the costal margin of the primaries edged with black nearly to the apex: head, thorax, and abdomen yellowish-brown, banded with white; antennæ pale cream-colour, tipped with white.—*Female*. Very similar to the male, but considerably larger and with much less white on the primaries. Expanse, ♂  $2\frac{1}{4}$ , ♀  $2\frac{3}{4}$  inches.

*Hab.* MEXICO, Coatepec (*Brooks*<sup>1</sup>), Jalapa, Cuesta de Misantla (*M. Trujillo*<sup>1</sup>), Orizaba (*Flohr*; *Boucard, in mus. D.*); GUATEMALA, in the city (*Rodriguez*<sup>1</sup>).

Allied to *G. albicollis*, Walk., but very different in colour.

7. **Gasina agesistrata.** (Tab. LXXXVI. figg. 9, ♂; 10, ♀.)

*Gasina agesistrata*, Druce, Ann. & Mag. Nat. Hist. (6) v. p. 217 (♀) (1890)<sup>1</sup>.

*Female.* Primaries and secondaries pale yellowish-brown, without markings of any kind, excepting along the costal margin of the primaries, which are very faintly shaded with darker brown: head, thorax, and abdomen yellowish-brown, the underside of the latter and the legs dark brown, the antennæ yellowish. —*Male.* Very similar to the female, but much smaller, and with the outer margin of the primaries paler. Expanse, ♂ 1½, ♀ 2½ inches.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); HONDURAS, Ruatan I. (*Gaumer*<sup>1</sup>); GUATEMALA, in the city (*Rodriguez*<sup>1</sup>); COSTA RICA, Candelaria Mts. (*Underwood*).

8. **Gasina trujillo.** (Tab. LXXXVI. figg. 11, ♂; 12, ♀.)

*Megalopyge trujillo*, Schaus, Journ. New York Ent. Soc. iv. p. 58 (♂ ♀) (1896)<sup>1</sup>.

*Hab.* MEXICO, Orizaba (*coll. Schaus*<sup>1</sup>; *Höge*; *Boucard, in mus. D.*); GUATEMALA, in the city (*Rodriguez*).

9. **Gasina lapena.** (Tab. LXXXVI. fig. 13, ♂.)

*Megalopyge lapena*, Schaus, Journ. New York Ent. Soc. iv. p. 58 (♂) (1896)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).

The type is figured. It is the only specimen I have seen.

HYDRIAS (I. p. 205).

1. **Hydrias nocens.**

*Hydrias (Cliseocampa) nocens*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 60, 78, fig. 90 (1854).

*Hydrias lignosa*, Walk. anteà, i. p. 205 (1855).

Dr. Staudinger has kindly sent me Herrich-Schäffer's type for comparison. Both insects were from Brazil.

**Hydrias melancholica** (I. p. 205).

To the localities given, add:—MEXICO, Orizaba (*Flohr*; *Boucard, in mus. D.*), Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*).

7. **Hydrias deceana.** (Tab. LXXXVI. fig. 14, ♂.)

*Hydrias deceana*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 182 (1894)<sup>1</sup>.

Primaries and secondaries brown; the primaries crossed from the costal to the inner margin by four fine waved black lines—the first near the base, the others beyond the middle,—and with a large blackish spot at the end of the cell; the fringe of both wings dark brown: head, antennæ, thorax, abdomen, and legs dark brown. Expanse 1¼ inch.

*Hab.* MEXICO, Orizaba (*Boucard, mus. D.*<sup>1</sup>), Jalapa (*M. Trujillo*<sup>1</sup>).

Some specimens are paler than others.



8. *Hydrias deformis*. (Tab. LXXXVI. fig. 16, ♀.)

*Hydrias deformis*, Schaus, Ent. Amer. vi. p. 45 (♀) (1890)<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*<sup>1</sup>).

The type is figured.

9. *Hydrias zürcheri*, sp. n. (Tab. LXXXVI. fig. 15, ♂.)

*Male*. Primaries and secondaries pale blackish-brown, crossed from the costal to the inner margin by zigzag lines of black spots, those nearest the base extending to the inner margin; the secondaries with a very faint submarginal line extending from the apex nearly to the anal angle; the fringe of both wings pale blackish-brown; the underside coloured as above, but with all the lines very faint: head, antennæ, thorax, abdomen, and legs pale blackish-brown. Expanse  $1\frac{3}{16}$  inch.

*Hab.* COSTA RICA, Santa Clara Valley 1200 feet (*Zürcher*).

One specimen. Allied to *H. deceana*.

10. *Hydrias castalia*, sp. n. (Tab. LXXXVI. fig. 17, ♀.)

*Female*. Primaries and secondaries uniformly dark reddish-brown; the primaries crossed from the costal to the inner margin by two very faint greyish lines—the first near the base, the second beyond the middle,—and with a submarginal row of small black spots extending from the apex to the anal angle, and a rather large greyish-white patch close to the apex; the fringe of both wings brown; the underside uniformly pale brown: head, antennæ, thorax, abdomen, and legs brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen.

11. *Hydrias corcyra*, sp. n. (Tab. LXXXVI. fig. 18, ♂.)

*Male*. Primaries pale brownish-fawn-colour, crossed beyond the middle from the costal to the inner margin by three paler bands, the fringe brown; secondaries whitish-fawn-colour, darker on the costal and inner margins; the underside pale whitish-brown, the fringe brown: head, thorax, abdomen, and legs pale fawn-colour, the antennæ yellow. Expanse  $1\frac{1}{4}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen.

12. *Hydrias certima*, sp. n. (Tab. LXXXVI. fig. 19, ♂.)

*Male*. Primaries dark greyish-brown, irrorated with white scales, the base of the wing reddish-brown, a black spot at the end of the cell, beyond which is a row of yellowish-white dots crossing from the costal to the inner margin, the fringe dark brown; secondaries greyish-brown, darker along the inner margin, two straight brown lines crossing the wing from the costal margin to the anal angle; the underside of both wings dark brown, with very much fainter lines: head, thorax, abdomen, and legs greyish-brown, the antennæ yellowish-brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen. Allied to *H. limba*, Druce.

13. *Hydrias charax*, sp. n. (Tab. LXXXVI. fig. 20, ♂.)

*Male*. Primaries greyish-brown, thickly streaked with wavy white lines, a black spot at the end of the cell, and several black spots close to the apex; secondaries reddish-brown, excepting the costal margin, which is greyish-brown, a narrow wavy whitish submarginal line extending from the apex to the anal angle; the fringe brown: head, antennæ, thorax, abdomen, and legs brown. Expanse  $1\frac{1}{4}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

14. **Hydrias cercina**, sp. n. (Tab. LXXXVI. fig. 21, ♂.)

*Male*. Primaries dark brown, darker at the base, crossed from the costal to the inner margin about the middle by two narrow white lines—the first curved, the second quite straight,—the veins between the two white lines white, a zigzag white submarginal line extending from near the apex to the anal angle, the fringe dark brown; secondaries dark reddish-brown, paler at the base and along the inner margin, with two short white streaks on the costal margin close to the apex; the underside of both wings uniformly dark reddish-brown: head, antennæ, thorax, abdomen, and legs dark brown, the abdomen paler beneath, the anus slightly greyish. Expanse  $1\frac{1}{2}$  inch.

*Hab.* HONDURAS (*Wittkugel, in mus. Staudinger*).

Allied to *H. laudia*, Druce, from Ecuador, but darker and with the white lines crossing the primaries in a very different position.

15. **Hydrias lacinia**. (Tab. LXXXVI. figg. 22, ♀; 23, ♂.)

*Hydrias lacinia*, Druce, Ann. & Mag. Nat. Hist. (6) v. p. 217 (♂) (March 1890)<sup>1</sup>.

*Cæculia fibra*, Schaus, Ent. Amer. vi. p. 45 (♂ ♀) (March 1890)<sup>2</sup>.

Primaries semihyaline greyish-white, with all the veins and the marginal line blackish-brown, a broad white band edged on both sides by two narrow fine brown lines crossing the wing from the costal to the inner margin, and a submarginal waved white line extending from the apex to the anal angle; secondaries greyish, with the costal and outer margins white, the hairs on the inner margin yellowish: head, palpi, and legs yellowish-brown; the antennæ greyish-brown, darker at the base; thorax blackish-brown above, yellowish-brown in front, and at the sides and beneath; abdomen yellowish-brown, with the base and anus blackish-brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Orizaba (*Flohr*), Jalapa (*M. Trujillo*), Coatepec (*coll. Schaus*<sup>2</sup>); GUATEMALA, in the city (*Rodriguez*<sup>1</sup>); COSTA RICA, Santa Clara Valley (*Zürcher*), Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

16. **Hydrias praxithea**. (Tab. LXXXVII. fig. 1, ♂.)

*Hydrias praxithea*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 181 (1894)<sup>1</sup>.

Primaries dark blackish-grey, paler at the apex and on the costal margin, a pale grey line crossing the wing near the base, and a submarginal waved white line extending from the apex to the anal angle; secondaries greyish-white, broadly bordered with dark grey along the costal margin to the apex, the inner margin and basal half of the wing dark greyish-brown, a submarginal dark grey waved line extending from the apex to the anal angle; the fringe of both wings dark grey: head, thorax, and legs dark grey, the thorax yellow beneath, the latter with a rather wide black line extending down the middle from the base; abdomen black, thickly clothed with dark reddish-brown and dark grey hairs, the underside yellow. Expanse 2 inches.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*<sup>1</sup>); COSTA RICA, Candelaria Mts. (*Underwood*).

Allied to *H. ocyroe*, Dogn., from Ecuador. The female is altogether darker than the male.

17. **Hydrias infernalis**. (Tab. LXXXVII. figg. 2, ♂; 3, ♀.)

*Echedorus infernalis*, Schaus, Ent. Amer. vi. p. 46 (♂) (1890)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>, *Höge*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); COSTA RICA, Santa Clara Valley (*Zürcher*).



**Hydrias larunda** (I. p. 206).

To the locality given, add:—PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

18. **Hydrias lyso**, sp. n. (Tab. LXXXVII. fig. 4, ♀.)

*Female*. Primaries and secondaries pale yellowish-fawn-colour; the primaries crossed from the costal to the inner margin by three waved lines of paler spots—the first nearest the base, the second beyond the middle, the third submarginal,—and with an elongate black spot at the end of the cell, the fringe pale fawn-colour; the secondaries with a pale submarginal line; the underside uniformly pale fawn-colour, with a pale submarginal line: head, antennæ, thorax, abdomen, and legs fawn-colour. Expanse  $3\frac{1}{4}$  inches.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen.

ERIOGASTER (to follow the genus *Hydrias*, I. p. 206).

*Eriogaster*, Germar, Syst. Gloss. Prodr. Bombyc. sect. 1, p. 6 (1811); Stephens, Ill. Brit. Ent., Haust. ii. p. 44 (1828); Walker, Cat. vi. p. 1467 (1855).

1. **Eriogaster submarginalis**.

*Eriogaster submarginalis*, Walk. Cat. xxxv. p. 1948 (1866)<sup>1</sup>.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).—COLOMBIA, Bogota<sup>1</sup>.

Walker's type is now in my own collection. It is a female, and not a male as stated<sup>1</sup>. Dr. Staudinger's specimen, which is also a female, is slightly darker.

## OCHA (I. p. 206).

**Ocha lasthenia** (I. p. 207).

To the Mexican locality given, add:—Coatepec (*Brooks*), Orizaba (*coll. Schaus*).

A second male of this species, identical with the type, has been received from Coatepec. The male in Mr. Schaus's collection is rather paler than either of the others before me.

3. **Ocha macerra**. (Tab. LXXXVII. fig. 5, ♂.)

*Ocha macerra*, Schaus, Ent. Amer. vi. p. 45 (♂) (1890)<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*<sup>1</sup>).

We figure Mr. Schaus's type.

4. **Ocha marginata**. (Tab. LXXXVII. fig. 6, ♂.)

*Ocha marginata*, Schaus, P. Z. S. 1894, p. 239<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).

The type is figured.

5. **Ocha amisena.** (Tab. LXXXVII. fig. 7.)

*Miresa* (?) *amisena*, Druce, P. Z. S. 1890, p. 506<sup>1</sup>.

*Hab.* HONDURAS (*Wittkugel, in mus. Staudinger*).—ECUADOR, Sarayacu<sup>1</sup>.

The dark markings on the primaries of the Honduras specimen are redder than in the type.

6. **Ocha libnites**, sp. n. (Tab. LXXXVII. fig. 8, ♂.)

*Male.* Primaries pale semihyaline reddish-brown, with a rather long blackish streak from the end of the cell, below which is a large cream-coloured spot and a smaller one nearer the outer margin, three faint waved lines crossing the wing from the costal to the inner margin; secondaries pale fawn-colour, the apex and outer margin darker brown: head, antennæ, thorax, abdomen, and legs brown. Expanse 1 inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*).

One specimen. Allied to *O. marginata*, Schaus.

7. **Ocha albula**, sp. n. (Tab. LXXXVII. fig. 10, ♂.)

*Male.* Primaries and secondaries white, the primaries crossed from the costal to the inner margin by three rather wide dusky bands—the first close to the base, the second about the middle, and the third beyond the middle; the underside very much as above, but with the bands on the primaries indistinct; the fringe of both wings white: head, thorax, abdomen, and legs white, the antennæ yellow. Expanse 1 inch.

*Hab.* MEXICO, Coatepec (*coll. Schaus*).

One specimen.

MESOSCIA (to follow the genus *Ocha*, I. p. 207).

*Mesoscia*, Hübner, Verz. bek. Schmett. p. 194 (1816); Möschler, Verh. zool.-bot. Ges. Wien, xxvii. p. 673 (1877).

1. **Mesoscia pusilla.**

*Phalæna-Bombyx pusilla*, Cram. Pap. Exot. iv. p. 220, t. 395. fig. G (1782)<sup>1</sup>.

*Hydrias pusilla*, Walk. Cat. vi. p. 1404<sup>2</sup>.

*Bombyx eriophora*, Sepp, Surin. Vlind. i. p. 49, t. 21 (1848)<sup>3</sup>.

*Hab.* HONDURAS (*Wittkugel, in mus. Staudinger*); PANAMA, Chiriqui (*in mus. Staudinger*).—GUIANA, Surinam<sup>1 2 3</sup>.

A female specimen of this species from Chiriqui is contained in Dr. Staudinger's collection.

TRABALA (I. p. 207).

**Trabala fusca** (I. p. 207).

To the localities given, add :—MEXICO, Coatepec (*Brooks*).

2. **Trabala drucei.**

*Vipsania anticlea*, Druce, anteà, p. 217, t. 23. fig. 9 (♀) (nec ♂).

*Trabala drucei*, Schaus, P. Z. S. 1892, p. 323 (♂ ♀).



Mr. Schaus's specimens were from Jalapa, and the females which were incorrectly assigned by me to *Vipsania anticlea* were from the same locality. The last-mentioned species has only been found as yet on the Pacific slope of Guatemala.

3. **Trabala (?) cebrenis.** (Tab. LXXXVII. fig. 11, ♀.)

*Trabala cebrenis*, Schaus, P. Z. S. 1892, p. 323 (♀) <sup>1</sup>.

*Hab.* MEXICO, Coatepec (*coll.* Schaus <sup>1</sup>).

4. **Trabala druceioides.** (Tab. LXXXVII. fig. 9, ♀.)

*Trabala druceioides*, Dogn. Ann. Soc. Ent. Belg. xxxviii. p. 682 (♂) (1894) <sup>1</sup>.

*Hab.* GUATEMALA (*Conradt, in mus. Staudinger*); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).—ECUADOR, Loja and El Monje <sup>1</sup>.

We figure a female from Chiriqui. The male is rather smaller and has the lines on the primaries less distinct.

APATELODES (I. p. 208).

Packard [Monogr. of the Bombycine Moths of America north of Mexico, part 1, p. 99 (1895)] placed this genus in the Notodontidæ, and makes it the type of his subfamily Apatelodinæ.

**Apatelodes heptaloba** (I. p. 209).

To the locality given, add :—MEXICO, Jalapa (*M. Trujillo*).

Mexican specimens are rather redder in colour than the Guatemalan type.

6. **Apatelodes albipunctata**, sp. n. (Tab. LXXXVII. fig. 14, ♂.)

*Male.* Primaries dark reddish-brown, darker from the base to about the middle, thickly irrorated with white scales near the base, at the apex, and along the outer margin, and with two rows of small white spots crossing from the costal to the inner margin—the first nearest the base, the second beyond the middle,—and a small whitish-hyaline spot close to the apex, the fringe dark reddish-brown; secondaries reddish-brown, the inner margin and the anal angle thickly clothed with greyish-white scales; the underside of both wings much greyer than above, the secondaries with a large greyish-white marking near the anal angle: head, antennæ, thorax, abdomen, and legs dark reddish-brown, the thorax clothed with greyish-white hairs at the sides, the abdomen with a row of small white spots down the middle and another on each side. Expanse 2 inches.

*Hab.* MEXICO, Orizaba (*coll.* Schaus).

One specimen.

7. **Apatelodes lacetania.** (Tab. LXXXVII. figg. 12, ♂; 13, ♀.)

*Apatelodes lacetania*, Druce, Ann. & Mag. Nat. Hist. (6) v. p. 217 (1890) <sup>1</sup>.

*Male.* Primaries blackish-brown, crossed about the middle from the costal to the inner margin by a curved dark brown band, and with two black streaks close to the apex and several dark markings on the inner margin near the base; secondaries greyish-brown; the fringe blackish-brown; the underside dusky greyish-brown, both wings with a submarginal white line: head, thorax, abdomen, antennæ, and legs black, the tegulæ edged with greyish hairs.—*Female.* Similar to the male, but larger and much paler in colour. Expanse, ♂ 1½, ♀ 1¾ inch.

*Hab.* MEXICO, Omilteme in Guerrero, 8000 feet (*H. H. Smith* <sup>1</sup>).

8. ***Apatelodes diffidens***. (Tab. LXXXVII. fig. 15, ♂.)

*Apatelodes diffidens*, H. Edwards, Ent. Amer. iii. p. 92 (♂ ♀) (Aug. 1887)<sup>1</sup>.

*Hab.* MEXICO, State of Jalisco (*Richardson*), Vera Cruz (*Schaus*<sup>1</sup>); GUATEMALA, in the city (*Rodriguez*).

We figure a male from Jalisco. I have not seen the type, but the specimens before me agree well with Edwards's description.

9. ***Apatelodes verena***, sp. n. (Tab. LXXXVII. fig. 16, ♂.)

*Male*. Primaries and secondaries dull blackish-grey; the primaries with two rather large black spots on the inner margin close to the base, beyond which five narrow waved black lines cross the wing from the costal to the inner margin—the first and second near the base, the third and fourth beyond the middle, the fifth nearest the outer margin,—the fringe greyish-black; the secondaries crossed about the middle from the costal to the inner margin by an indistinct dark band, which is black on the inner margin, and with a black spot at the anal angle; the underside much greyer than above, and with the band on the secondaries wider and darker: head, antennæ, thorax, abdomen, and legs blackish-grey. Expanse 2 inches.

*Hab.* MEXICO, Jalapa (*coll. Schaus*).

One specimen. Allied to *A. diffidens*, H. Edwards.

10. ***Apatelodes cirna***. (Tab. LXXXVII. fig. 18, ♂.)

*Apatelodes cirna*, Druce, P. Z. S. 1893, p. 298 (♂)<sup>1</sup>.

*Hab.* MEXICO, Orizaba (*Flohr*).—ECUADOR, Sarayacu<sup>1</sup>.

One specimen, almost identical with the type in my own collection.

11. ***Apatelodes pandara***. (Tab. LXXXVII. fig. 17, ♀.)

*Apatelodes pandara*, Druce, P. Z. S. 1893, p. 298 (♂)<sup>1</sup>.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).—ECUADOR, Sarayacu<sup>1</sup>.

The fine female specimen from Chiriqui in Dr. Staudinger's collection is very similar to the male described by me from Ecuador, except that it is much larger and redder, and that the line on the primaries nearest the base is more curved.

OLCECLOSTERA (to follow the genus *Apatelodes*, I. p. 209).

*Olceclostera*, Butler, Trans. Ent. Soc. Lond. 1878, p. 70.

1. ***Olceclostera azteca***. (Tab. LXXXVII. fig. 19, ♂.)

*Olceclostera azteca*, Schaus, P. Z. S. 1894, p. 234<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>); GUATEMALA (*in mus. Staudinger*).

Dr. Staudinger's specimen is slightly darker than the type. The latter is figured.



2. *Olceclostera amoria*. (Tab. LXXXVII. fig. 22, ♂.)

*Olceclostera* \* *amoria*, Druce, P. Z. S. 1890, p. 505<sup>1</sup>.

*Olceclostera maya*, Schaus, P. Z. S. 1892, p. 326<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>2</sup>).—ECUADOR, Sarayacu<sup>1</sup>.

Mr. Schaus's specimen, from which our figure is taken, is a little paler than the Ecuador type.

PARATHYRIS (to follow the genus *Acronyctodes*, I. p. 209).

*Parathyris*, Hübner, Verz. bek. Schmett. p. 158 (1816); Walker, Cat. v. p. 1087 (1855); Kirby, Cat. Lep. Het. i. p. 852 (part.).

The species included in this genus by Mr. Kirby in his Catalogue belong to four different groups.

1. *Parathyris cedo-nulli*.

*Phalæna Bombyx cetonulli*, Cram. Pap. Exot. iv. p. 108, t. 346. figg. A, B<sup>1</sup>.

*Parathyris cetonulli*, Hübn. Verz. bek. Schmett. p. 158<sup>2</sup>; Walk. Cat. v. p. 1089<sup>3</sup>.

*Hab.* NICARAGUA, Chontales (*Belt*).—GUIANA, Surinam<sup>1 3</sup>.

A fine specimen of this rare South-American species was captured in Nicaragua by the late Mr. Belt and presented by him to the Oxford Museum.

EURYDA (I. p. 210).

*Euryda variolaris* (I. p. 210).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

ALPIS (I. p. 210).

*Alpis contigua* (I. p. 210).

*Bombyx habitus*, H. Edwards, Ent. Amer. iii. p. 91 (1887) (♂)<sup>1</sup>.

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*), Coatepec (*Brooks*), Vera Cruz (*Schaus*<sup>1</sup>).

SIBINE (I. p. 211).

1 (A). *Sibine lysia*, sp. n. (Tab. LXXXVII. fig. 20, ♂.)

*Male*. Primaries reddish-brown, with the outer margin from the apex to the anal angle broadly bordered with darker brown; secondaries pale cream-colour, thickly clothed with reddish-brown hairs along the inner margin and at the apex: head and thorax bright green, the antennæ brown, the abdomen and legs reddish-brown. Expanse 1 inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

One specimen, allied to *S. chloris*, Herr.-Schäff.

\* Incorrectly printed *Æceclostera*.

### 3. *Sibine extensa*.

*Sibine extensa*, Schaus, Journ. New York Ent. Soc. iv. p. 55 (1896)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).

## ECHEDORUS (I. p. 212).

### *Echedorus mexicanus* (I. p. 212).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

The Panama locality must be erased, the specimen from thence proving to be a male of *E. nanus*, Druce.

### *Echedorus nanus* (I. p. 212).

To the locality given, add:—HONDURAS, San Pedro Sula (*Wittkugel, in mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

The male is very similar to the type, a female, but it is considerably smaller and without the reddish-brown marking on the inner margin of the primaries.

### 3. *Echedorus phyllius*, sp. n. (Tab. LXXXVII. fig. 21, ♂.)

*Male.* Primaries blackish-grey, with the base and the inner and outer margins pale greyish-white; secondaries cream-colour, clouded with dark grey; the underside of the primaries black, with the outer margin cream-colour, that of the secondaries cream-colour: head, antennæ, thorax, and abdomen greyish-cream-colour, the anal segments and anus black. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Guadalajara (*coll. Schaus*).

One specimen. Allied to *E. nanus*, Druce.

## SCIATHOS (I. p. 212).

### *Sciathos punctigera* (I. p. 212).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*).

### 2. *Sciathos dimas*.

*Phalæna Bombyx dimas*, Cram. Pap. Exot. i. p. 91, t. 59. fig. C<sup>1</sup>.

*Trosia dimas*, Hübn. Verz. bek. Schmett. p. 196<sup>2</sup>.

*Chrysauge dimas*, Walk. Cat. ii. p. 375<sup>3</sup>.

*Hab.* COSTA RICA, Santa Clara Valley (*Zürcher*).—ANTILLES<sup>1 3</sup>.

This species is very distinct from *S. punctigera*.



3. **Sciathos ribbei**, sp. n. (Tab. LXXXVIII. fig. 1, ♂.)

*Male*. Primaries semihyaline pinkish-red, with the costal and inner margins darker, the veins reddish-brown; secondaries deep pinkish-red, with the veins darker: head, thorax, abdomen, and legs orange-red, the antennæ black. Expanse  $1\frac{1}{4}$  inch.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

One specimen.

## DALCERA (I. p. 213).

**Dalcera ochracea** (I. p. 213).

*Hab.* MEXICO, Tierra Colorada in Guerrero (*H. H. Smith*).

The worn specimen from Costa Rica that I included under *D. ochracea* belongs to a different species, but it is not in a fit condition to describe.

PINCONIA (to follow the genus *Dalcera*, I. p. 213).

*Pinconia*, Moore, Proc. Lit. Phil. Soc. Liverpool, xxxvi. p. 364 (1882).

The type of the genus is *P. ochracea*, Moore, from Brazil.

1. **Pinconia coa**. (Tab. LXXXVII. fig. 23, ♂.)

*Pinconia coa*, Schaus, P. Z. S. 1892, p. 322 (♂ ♀) <sup>1</sup>.

*Hab.* MEXICO, Jalapa <sup>1</sup> (*M. Trujillo*), Coatepec <sup>1</sup> (*coll. Schaus*), Orizaba (*Boucard, in mus. D.*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

The sexes are very similar, except that the female is larger than the male. We figure one of the types from Jalapa.

2. **Pinconia melinda**, sp. n. (Tab. LXXXVII. fig. 24, ♀.)

*Female*. Primaries and secondaries uniformly orange-yellow, the primaries slightly darker along the inner margin; the underside as above: head, antennæ, thorax, abdomen, and legs orange-yellow. Expanse 2 inches.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

Differs from *P. ochracea* and *P. coa* in having the wings entirely without markings.

## PARASA (I. p. 214).

**Parasa imitata** (I. p. 215).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

The two specimens from the Candelaria Mountains differ from all the others I have seen in having the secondaries pale cream-colour, instead of reddish-brown.

BIOL. CENTR.-AMER., Heter., Vol. II., January 1898.

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4. **Parasa minima.** (Tab. LXXXVII. fig. 25, ♀.)

*Parasa minima*, Schaus, P. Z. S. 1892, p. 322 <sup>1</sup>.

*Hab.* MEXICO, Coatepec <sup>1</sup>, Jalapa (*coll. Schaus*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

The sexes are very similar. We figure a female from Coatepec.

## EUCLEA (I. p. 215).

**Euclea determinata** (I. p. 216).

To the localities given, add:—MEXICO, Temax in North Yucatan (*Gaumer*).

6. **Euclea cippus.**

*Phalæna Bombyx cippus*, Cram. Pap. Exot. i. p. 84, t. 53. fig. E <sup>1</sup>; Abbot & Smith, Lep. Georgia, ii. p. 145, t. 73 <sup>2</sup>.

*Euclea cippe*, Hübn. Verz. bek. Schmett. p. 149 <sup>3</sup>.

*Limacodes cippus*, Duncan, Nat. Libr. xxxvii., Exot. Moths, p. 177, t. 21. figg. 1, 2 <sup>4</sup>.

*Euclea cippus*, Walk. Cat. v. p. 1143 <sup>5</sup>.

*Hab.* NORTH AMERICA, Georgia <sup>2 5</sup>.—PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—GUIANA, Surinam <sup>1</sup>; ECUADOR.

METRAGA (to follow the genus *Euclea*, I. p. 216).

*Metraga*, Walker, Cat. v. p. 1129 (1855).

1. **Metraga perplexa.**

*Metraga perplexa*, Walk. Cat. v. p. 1130 <sup>1</sup>.

*Euclea zygia*, Druce, *anteà*, i. p. 216, t. 13. fig. 7.

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*), Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*).—VENEZUELA <sup>1</sup>.

## VIPSANIA (I. p. 217).

**Vipsania anticlea** (I. p. 217).

As I have already noted, *anteà*, p. 436, the females from Jalapa belong to another species, *Trabala drucei*, Schaus, and the Mexican locality must therefore be erased.

2. **Vipsania frigida.** (Tab. LXXXVII. fig. 26.)

*Vipsania frigida*, Schaus, P. Z. S. 1892, p. 323 <sup>1</sup>.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*) <sup>1</sup>.

The type is figured.

## EUPALIA (I. p. 217).

**Eupalia argentata** (I. p. 218).

To the localities given, add:—MEXICO, Orizaba (*Fiohr; Boucard, in mus. D.*).



4. **Eupalia extensa.** (Tab. LXXXVIII. fig. 3, ♀.)

*Sibine extensa*, Schaus, Journ. New York Ent. Soc. iv. p. 55 (1896) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (coll. Schaus <sup>1</sup>, M. Trujillo), Orizaba (Flohr), Coatepec (Brooks).

We figure Mr. Schaus's type. The male is very similar to the female, but considerably smaller.

## PEROLA (I. p. 219).

**Perola daona** (I. p. 219).

To the locality given, add:—MEXICO, Coatepec (Brooks).

**Perola elæa** (I. p. 219).

To the locality given, add:—MEXICO, Jalapa (M. Trujillo), Teapa in Tabasco (H. H. Smith).

6. **Perola lacipea.** (Tab. LXXXVIII. fig. 2, ♂.)

*Perola lacipea*, Druce, Ann. & Mag. Nat. Hist. (6) v. p. 218 (1890) <sup>1</sup>.

*Male.* Primaries dark brown, with a reddish tinge near the base, a waved grey line crossing the wing from the apex to the inner margin and a short grey line extending from the costal to the middle of the outer margin; secondaries very dark brown, almost black; the underside uniformly blackish-brown: head, antennæ, and thorax reddish-brown, the abdomen and legs dark brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Tierra Colorada in Guerrero (H. H. Smith).

One example, captured by Mr. Smith in October 1888.

## SEMYRA (I. p. 220).

**Semyra bella** (I. p. 220).

The specimen from the Volcan de Atitlan included under this name belongs to a different species.

**Semyra diversa** (I. p. 220).

To the localities given, add:—MEXICO, Coatepec (Brooks), Atoyac in Vera Cruz (Schumann).

5. **Semyra agemytha.** (Tab. LXXXVIII. fig. 4, ♂.)

*Semyra agemytha*, Druce, Ann. & Mag. Nat. Hist. (6) v. p. 218 (1890) <sup>1</sup>.

*Male.* Primaries bright reddish-brown, darker at the base, a spot at the end of the cell, a waved streak on the inner margin close to the base, one near the anal angle, and one on the outer margin all metallic silver; secondaries pale fawn-colour, paler at the base and along the inner margin; the fringe of both wings reddish-fawn-colour: head, thorax, and abdomen bright reddish-brown, the anus yellowish, the antennæ and legs dark fawn-colour. Expanse 1 inch.

*Hab.* MEXICO, Omilteme in Guerrero, 8000 feet (H. H. Smith <sup>1</sup>).

One specimen, captured in August 1888.

6. **Semyra straminea.** (Tab. LXXXVIII. fig. 5, ♀.)*Semyra straminea*, Schaus, P. Z. S. 1892, p. 324 (♀)<sup>1</sup>.*Hab.* MEXICO, Rinconada in Vera Cruz (*coll. Schaus*<sup>1</sup>).7. **Semyra (?) arcuata**, sp. n. (Tab. LXXXVIII. fig. 9, ♂.)*Male.* Primaries brownish-grey, with some black streaks on the costal and outer margins, and a small white streak on the inner margin, the latter reddish-brown near the base, the fringe blackish-brown; secondaries greyish-black, with all the veins darker: head, thorax, and base of the abdomen greyish-brown, the anal segments of the latter and the antennæ black. Expanse  $1\frac{1}{10}$  inch.*Hab.* MEXICO, Jalapa (*M. Trujillo and coll. Schaus*).

Two specimens.

## EULIMACODES (I. p. 221).

2. **Eulimacodes möschleri.** (Tab. LXXXVIII. fig. 11.)*Eulimacodes möschleri*, Schaus, P. Z. S. 1892, p. 324<sup>1</sup>.*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Volcan de Atitlan (*Champion*).

We figure a specimen from Teapa, agreeing well with Mr. Schaus's type.

PROLIMACODES (to follow the genus *Eulimacodes*, I. p. 221).*Prolimacodes*, Schaus, Journ. New York Ent. Soc. iv. p. 56 (1896).1. **Prolimacodes triangulifera.** (Tab. LXXXVIII. fig. 12.)*Prolimacodes triangulifera*, Schaus, Journ. New York Ent. Soc. iv. p. 56 (1896)<sup>1</sup>.*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).

## ZANOLA (I. p. 222).

**Zanola harpis** (I. p. 222).To the locality given, add:—MEXICO, Jalapa (*M. Trujillo*), Atoyac in Vera Cruz (*Schumann*); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

## TARCHON (I. p. 222).

**Tarchon felderi** (I. p. 222).To the locality given, add:—MEXICO, Jalapa (*M. Trujillo*).2. **Tarchon tanais**, sp. n. (Tab. LXXXVIII. fig. 6, ♀.)*Female.* Primaries pale fawn-colour, darker at the apex and along the outer margin, crossed from the costal to the inner margin by three faint narrow straight lines—the first near the base, the second about the middle, the third towards the outer margin,—and with a waved submarginal line extending from the apex to the anal angle; secondaries fawn-colour, crossed by two lines—the first about the middle, the second below it,—and with a waved submarginal line; the fringe of both wings dark fawn-colour:



the underside very much as above, but darker and with all the lines more distinct: head, antennæ, thorax, abdomen, and legs pale fawn-colour. Expanse 2 inches.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen. Allied to *T. felderi*, Druce.

3. **Tarchon corydona**, sp. n. (Tab. LXXXVIII. fig. 8, ♀.)

*Female.* Primaries pale brownish-fawn-colour, paler in the middle, crossed from the costal to the inner margin by several darker fawn-coloured waved lines, the fringe brown; secondaries yellowish-fawn-colour, with three rows of indistinct dark spots showing through the wing from beneath, the fringe yellowish; the underside darker than above, with all the markings more distinct: head and thorax fawn-colour, the antennæ brown, the abdomen yellowish. Expanse  $2\frac{1}{2}$  inches.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen.

4. **Tarchon (?) lybia**, sp. n. (Tab. LXXXVIII. fig. 10, ♀.)

*Female.* Primaries and secondaries pale cream-colour; the primaries thickly irrorated with small brown scales, crossed from the costal to the inner margin by three darker waved lines—the first near the base and wider than the others, the second beyond the cell, the third submarginal,—and with a black dot at the end of the cell, the marginal line dark brown, the fringe cream-colour, edged with brown; the secondaries crossed about the middle by a narrow brown line, the marginal line brown, the fringe cream-colour; the underside very much as above, but without the line near the base of the primaries: head, antennæ, thorax, and abdomen cream-colour, the latter yellowish-brown near the base and also beneath. Expanse  $3\frac{1}{4}$  inches.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

COLLA (I. p. 223).

**Colla rhodope** (I. p. 223).

To the localities given, add:—MEXICO, Yucatan (*mus. Staudinger*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

HYGROCHROA (I. p. 223).

**Hygrochroa rutila** (I. p. 224).

To the locality given, add:—COSTA RICA, Santa Clara Valley (*Zürcher*); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

CARTHARA (I. p. 224).

**Carthara lividia** (I. p. 225).

To the localities given, add:—GUATEMALA, Coban in Vera Paz (*Conradt*).

**Carthara drepanoides** (I. p. 225).

To the localities given, add:—MEXICO, Orizaba (*Flohr*), Coatepec (*Brooks*), Cuesta de Misantla (*M. Trujillo*), Teapa in Tabasco (*H. H. Smith*); COSTA RICA, Candelaria Mts. (*Underwood*).

4. **Carthara mævia**, sp. n. (Tab. LXXXVIII. figg. 14, ♂; 15, ♀.)

*Male*. Primaries dark olive-brown, shaded with darker brown along the costal margin and near the apex, and crossed from the costal to the inner margin by several waved black lines; secondaries olive-brown, with a reddish shade about the centre, two faint darker lines crossing the wing near the middle from the costal to the inner margin above the anal angle, a small white streak at the anal angle, the fringe dark brown; the underside dark reddish-brown, the primaries with the inner margin broadly bordered with pale fawn-colour, and with two faint dark brown lines crossing beyond the middle from the costal margin to the anal angle, the secondaries with a small fawn-coloured spot close to the base and with the lines as above: head, antennæ, thorax, abdomen, and legs olive-brown.—*Female*. Larger and greyer, with the markings indistinct, the underside paler. Expanse, ♂ 1½, ♀ 2 inches.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger; mus. D.*).

Allied to *C. drepanoides*, but with very different markings.

ANTICLA (I. p. 225).

3. **Anticla dodona**, sp. n. (Tab. LXXXVIII. fig. 16, ♂.)

*Male*. Primaries pale greyish-fawn-colour, crossed about the middle by two very faint brownish lines, and with a submarginal row of very minute black dots extending from the apex to the anal angle; secondaries yellow, clouded with fawn-colour round the outer margin from the apex to the anal angle; the underside of the primaries yellow, with the costal margin and the apex pinkish-brown, that of the secondaries pinkish-brown, yellow on the inner margin, and with three indistinct waved lines crossing from the costal to the inner margin: head, antennæ, thorax, and legs pale greyish-fawn-colour; the abdomen yellow, tinged with reddish-brown beneath. Expanse 1¾ inch.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen. Allied to *A. ortygia*, Druce.

PEROPHORA (I. p. 227).

**Perophora hegewischi** (I. p. 227).

To the locality given, add :—GUATEMALA, in the city (*Rodriguez*).

3. **Perophora sanguinolenta**.

*Perophora sanguinolenta*, Feld. & Rogenh. Reise der Novara, Lep. t. 92. fig. 4, Erkl. der Taf. 75–107, p. 8 (♂) (1874)¹.

*Hab.* GUATEMALA, in the city (*Rodriguez*).—BRAZIL¹.

One specimen, a male, agreeing well with others from Rio Janeiro in my own collection.

4. **Perophora mexicana**, sp. n. (Tab. LXXXVIII. fig. 7, ♀.)

*Female*. Primaries and secondaries pinkish-grey, thickly irrorated with minute black scales, a black line crossing both wings from the costal margin near the apex to the inner margin, the fringe brown; the underside much as above, but with the dark line very faint: head, thorax, abdomen, and legs pinkish-grey, irrorated with black scales, the antennæ greyish-brown. Expanse 3 inches.

*Hab.* MEXICO, Orizaba (*coll. Schaus*); GUATEMALA, in the city (*Rodriguez*).



The description and figure are taken from the female specimen from Orizaba. The worn male example from Guatemala seems to belong to the same species.

5. **Perophora inscita.** (Tab. LXXXVIII. fig. 13, ♂.)

*Perophora inscita*, Schaus, Ent. Amer. vi. p. 46 (♂) (1890)<sup>1</sup>.

*Hab.* MEXICO, Coatepec (*coll. Schaus*<sup>1</sup>).

We figure the type from Mr. Schaus's collection.

6. **Perophora acuta.** (Tab. LXXXVIII. fig. 17, ♂.)

*Perophora acuta*, Schaus, P. Z. S. 1892, p. 327<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—BRAZIL, Petropolis<sup>1</sup>.

We figure a male from Chiriqui. The female is larger and whiter.

7. **Perophora ostia**, sp. n. (Tab. LXXXVIII. fig. 18, ♀.)

*Female.* Primaries and secondaries pale reddish-fawn-colour, both wings crossed beyond the middle by a rather wide reddish-brown line and with a waved submarginal white line, the costal margin and a streak at the end of the cell of the primaries white: head, antennæ, thorax, abdomen, and legs pale fawn-colour. Expanse 2 inches.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen.

DREPANA (I. p. 228).

**Drepana chaonia** (I. p. 228).

To the locality given, add:—PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

MIMALLO (I. p. 228).

**Mimallo amilia** (I. p. 228).

To the localities given, add:—GUATEMALA, in the city (*Rodriguez*).

2. **Mimallo syrinx**, sp. n. (Tab. LXXXVIII. fig. 19, ♀.)

*Female.* Primaries dark greyish-brown, clouded with blackish-brown from the base to beyond the middle, a zigzag line of greyish-brown spots crossing the wing from the costal to the inner margin beyond the middle and several light spots near the base; secondaries pale brown, crossed below the middle by a waved black line, the outer margin broadly bordered with blackish-brown; the fringe of both wings black; the underside as above, but much darker in colour: head, antennæ, thorax, and abdomen blackish-brown. Expanse 2 inches.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen. Allied to *M. amilia* (Cram.), but darker, and without hyaline spots on the primaries.

TROGOPTERA (to follow the genus *Mimallo*, I. p. 228).

*Trogoptera*, Herrich-Schäffer, Samml. aussereur. Schmett. p. 60 (1855).

1. *Trogoptera erosa*.

*Trogoptera erosa*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 60, 84, fig. 496<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).—BRAZIL<sup>1</sup>.

One specimen, very similar to Herrich-Schäffer's figure.

2. *Trogoptera sao*. (Tab. LXXXVIII. fig. 20, ♂.)

*Trogoptera sao*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 355 (1894)<sup>1</sup>.

*Male.* Primaries and secondaries orange-brown, the primaries with the costal margin and a faint line crossing from the costal to the inner margin pinkish-brown: head, antennæ, thorax, and abdomen yellowish-brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* COSTA RICA, Rio Sucio (*Rogers*<sup>1</sup>).

One specimen.

3. *Trogoptera rumina*. (Tab. LXXXVIII. fig. 22, ♂.)

*Trogoptera rumina*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 355 (1894)<sup>1</sup>.

*Male.* Primaries and secondaries citron-yellow, the primaries with two small spots close to the base on the costal margin, one near the apex, and a streak at the anal angle all greyish-white, the anal angle shaded with fawn-colour; secondaries crossed below the middle by an indistinct broken line of small white spots, the inner margin and anal angle slightly shaded with pinkish fawn-colour; the fringe greyish-white: head, thorax, and abdomen pale pinkish-fawn-colour, the antennæ pale brown. Expanse  $1\frac{3}{10}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui (*Champion*<sup>1</sup>).

One specimen.

## TYPHONIA (I. p. 229).

*Typhonia* (?) *naxa* (I. p. 229).

To the localities given, add :—PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

## ŒCETICUS (I. p. 229).

*Œceticus kirbii* (I. p. 229).

To the localities given, add :—MEXICO, Coatepec (*Brooks*).

## COSSUS (I. p. 230).

3. *Cossus populi*?

*Cossus populi*, Walk. Cat. vii. p. 1515<sup>1</sup>.

*Hab.* NORTH AMERICA, Hudson's Bay<sup>1</sup>.—MEXICO, State of Oaxaca (*Flohr*); GUATEMALA (*mus. Staudinger*).



## LANGSDORFIA (I. p. 230).

**Langsdorfia francki** (I. p. 231).

To the localities given, add :— MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

**Langsdorfia forreri** (I. p. 231).

To the locality given, add :—HONDURAS (*Wittkugel, in mus. Staudinger*).

## ZEUZERA (I. p. 231).

2. **Zeuzera canadensis?**

*Zeuzera canadensis*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 58, 79, fig. 168<sup>1</sup>.

*Hab.* NORTH AMERICA, Quebec<sup>1</sup>.—MEXICO, Cuesta de Misantla (*M. Trujillo*).

3. **Zeuzera masoni.** (Tab. LXXXVIII. fig. 21, ♂.)

*Zeuzera masoni*, Schaus, P. Z. S. 1894, p. 235 (♂)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*)<sup>1</sup>.

CRYPTOBIA (to follow the genus *Zeuzera*, I. p. 231).

*Cryptobia*, Herrich-Schäffer, Samml. aussereur. Schmett. p. 58 (1855).

1. **Cryptobia musæ.**

*Cryptobia musæ*, Herr.-Schäff. Samml. aussereur. Schmett. pp. 58, 79, fig. 165<sup>1</sup>.

*Hab.* GUATEMALA, in the city (*Rodriguez*).—BRAZIL, Rio Grande<sup>1</sup>.

One specimen.

**Fam. ARBELIDÆ** (to precede the family Hepialidæ, I. p. 231).

## ARBELA.

*Arbela*, Moore, P. Z. S. 1879, p. 411; Hampson, Fauna Brit. Ind., Moths, i. p. 314.

1. **Arbela philobia**, sp. n. (Tab. LXXXIX. fig. 7, ♂.)

*Male.* Primaries and secondaries greyish-white; the primaries irrorated with brown at the base, along the costal margin, at the apex, and near the anal angle, with a small spot in the cell, one below it, and one on the inner margin all dark grey, and a large double black spot crossing close to the apex, beyond which the wing is clouded with black; the secondaries with the marginal line brown; the fringe of both wings greyish-white; the underside greyish-white, with the spots on the primaries very indistinct: head, front, and thorax black, the tegulæ grey, the abdomen and legs greyish-white, the antennæ and palpi pale brown. Expanse 1¾ inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen.

BIOL. CENTR.-AMER., Heter., Vol. II., April 1898.

3 mm

2. **Arbela norax**, sp. n. (Tab. LXXXIX. fig. 6, ♂.)

*Male*. Primaries silvery-grey, thickly irrorated with black scales, and with a large brown spot at the apex extending from the costal margin to the anal angle, edged with white on the inner side, the fringe brown; secondaries brown: head and front of the thorax black, the tegulæ, the base of the thorax, the abdomen, and legs greyish, the antennæ brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

One specimen.

3. **Arbela manes**, sp. n. (Tab. LXXXIX. fig. 8.)

Primaries greyish-white, crossed from the costal to the inner margin by very fine reddish-brown lines, and with two wide dark reddish-brown markings near the apex and outer margin, the fringe greyish-white; secondaries pale brown, the fringe cream-colour; the underside of both wings dark brown, with the fringe pale yellowish-grey: head, antennæ, and thorax greyish-brown, the abdomen brown. Expanse 2 inches.

*Hab.* PANAMA, Chiriqui (*mus. Staudinger*).

One specimen.

4. **Arbela tacita**, sp. n. (Tab. LXXXIX. fig. 9.)

Primaries pale reddish-fawn-colour, slightly irrorated with dark brown scales along the costal margin near the apex, and with a large reddish-brown spot (darker on the inner side) at the tip, below which are some white markings; secondaries dusky brown, paler in the cell and along the costal margin; the underside of both wings dark brown: head, antennæ, thorax, abdomen, and legs pale reddish-brown. Expanse  $2\frac{1}{4}$  inches.

*Hab.* HONDURAS (*Wittkugel, in mus. Staudinger*).

One specimen.

5. **Arbela nais**, sp. n. (Tab. XC. figg. 1, ♂; 4, ♀.)

*Male*. Primaries pale fawn-colour, crossed from the costal to the inner margin by very fine waved slightly darker lines, and with a minute black dot at the end of each of the veins on the outer margin, and a narrow white streak extending from the base of the inner margin to the anal angle; secondaries rather darker fawn-colour, with a white streak on the costal margin; the underside of both wings very much as above: head, thorax, and abdomen fawn-colour, the collar and tegulæ edged with white, the anal tuft black at the tip; the legs fawn-colour above, white beneath.—*Female*. Very like the male, but with the secondaries white, showing the fine lines more distinctly. Expanse, ♂  $1\frac{3}{10}$ , ♀  $1\frac{1}{10}$  inch.

*Hab.* COSTA RICA, La Uruca, San José (*coll. Dognin*).

DALACA (I. p. 232).

**Dalaca assa** (I. p. 232).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*).

2. **Dalaca sarta**. (Tab. LXXXIX. fig. 2.)

*Dalaca sarta*, Schaus, P. Z. S. 1894, p. 236 (♂)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).

Allied to *D. assa*, Druce. We figure Mr. Schaus's type.

3. **Dalaca terea.** (Tab. LXXXIX. fig. 3.)

*Dalaca terea*, Schaus, P. Z. S. 1892, p. 330<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*<sup>1</sup>).

The type is figured.

## PHASSUS (I. p. 232).

**Phassus argentiferus** (I. p. 233).

To the localities given, add:—MEXICO, Orizaba (*Flohr*), Jalapa, Cuesta de Misantra (*M. Trujillo*), Atoyac in Vera Cruz (*Schumann*), Cuernavaca in Morelos (*H. H. Smith*); HONDURAS (*Wittkugel, in mus. Staudinger*).

**Phassus triangularis** (I. p. 233). (Tab. LXXXIX. fig. 1.)

To the locality given, add:—MEXICO, Orizaba (*Flohr*); GUATEMALA, in the city (*Rodriguez*); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

We now figure a specimen of this species found by M. Trujillo at Jalapa, whence the type was obtained.

**Phassus phalerus** (I. p. 233).

To the locality given, add:—COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); HONDURAS (*Wittkugel, in mus. Staudinger*).

2 (A). **Phassus basirei.**

*Phassus basirei*, Schaus, Ent. Amer. vi. p. 46 (♀) (1890)<sup>1</sup>.

*Hab.* MEXICO, Coatepec (*coll. Schaus*<sup>1</sup>).

This species is very closely allied to *P. triangularis*, H. Edwards.

6. **Phassus marcius.** (Tab. LXXXIX. fig. 4.)

*Phassus marcius*, Druce, Ann. & Mag. Nat. Hist. (6) ix. p. 278 (1892)<sup>1</sup>.

Primaries pale greyish-brown, thickly marked with grey and darker brown lines, with a double row of blackish-brown elongated spots crossing the wing from the costal margin near the apex to the inner margin, a row of curved lines extending round the outer margin from the apex to the anal angle, and a rather long metallic gold streak, broken into three spots at the end of the cell, beyond which, nearer the outer margin, are two very minute metallic gold dots; secondaries pale greyish-brown, paler at the base, with several indistinct darker markings on the costal margin near the apex: head, thorax, and abdomen pale greyish-brown. Expanse  $4\frac{2}{10}$  inches.

*Hab.* MEXICO, near Durango city (*Becker*<sup>1</sup>), Mineral del Monte in Hidalgo (*mus. Staudinger*).

A fine distinct species. Allied to *P. argentiferus*, Walk. The specimen in Dr. Staudinger's collection is labelled as having been found by Ehrenberg in 1835.

3 mm 2



**7. *Phassus smithi*.** (Tab. LXXXIX. fig. 5.)

*Phassus smithi*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 92 (1889)<sup>1</sup>.

Primaries pale fawn-colour, indistinctly mottled with a darker shade, with a few lunular-shaped markings near the apex and along the outer margin; secondaries uniformly reddish-fawn-colour, slightly streaked with paler colour along the costal margin near the apex; the underside of both wings pale fawn-colour: head and thorax reddish-fawn-colour, the abdomen and legs pale fawn-colour, the antennæ brown. Expanse  $4\frac{4}{10}$  inches.

*Hab.* MEXICO, Atoyac in Vera Cruz (*H. H. Smith*<sup>1</sup>).

One specimen, captured in May 1888. This species is allied to *P. championi*, but differs from it in colour and markings.

ICHTHYURA (to precede the genus *Cecrita*, I. p. 234).

*Melalopha*, Hübner, Tentamen, p. 1 (part.) (1810); Kirby, Cat. Lep. Het. i. p. 608.

*Pygæra*, Ochsenheimer, Schmett. Eur. iii. p. 224 (part.) (1810).

*Ichthyura*, Hübner, Verz. bek. Schmett. p. 162 (1816); Walker, Cat. v. p. 1054 (1855); Packard, Monogr. Bombyc. Moths of America north of Mexico, i. p. 123, t. 40. figg. 1-4 (neurulation) (1895).

*Clostera*, Stephens, Ill. Brit. Ent., Haust. ii. p. 12 (1828).

This genus is very fully described by Mr. Packard, though his statement that it is not represented in Asia or in the tropics is incorrect, some six or seven species being known from India, Japan, Ceylon, and Java.

**1. *Ichthyura inornata*.**

*Ichthyura inornata*, Neum. Papilio, ii. p. 134 (1882)<sup>1</sup>; Pack. Ent. News, iv. p. 78<sup>2</sup>; Monogr. Bombyc. Moths of America north of Mexico, i. p. 130, t. 3. figg. 9-11<sup>3</sup>.

*Melalopha inornata*, Neum. & Dyar, Canad. Ent. xxv. p. 123<sup>4</sup>; Trans. Amer. Ent. Soc. xxi. p. 192<sup>5</sup>; Journ. New York Ent. Soc. ii. p. 115<sup>6</sup>.

*Hab.* NORTH AMERICA, South-eastern Arizona<sup>1 2 3</sup>, Sonora (*Morrison, in mus. D.*).—MEXICO<sup>5</sup>, Guadalajara in Jalisco (*Goldsmith, in mus. D.*).

I have received one male and two females of this species from Mexico.

CECRITA (I. p. 234).

***Cecrita biundata*** (I. p. 234).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*).

**3. *Cecrita remuria*, sp. n.** (Tab. XC. fig. 5, ♂.)

*Male*. Primaries sage-green, irrorated with yellow scales, a zigzag black line crossing the wing at the end of the cell from the costal to the inner margin, beyond which is a curved black line with some black on the outer side of it, the fringe green; secondaries with the costal half sage-green, irrorated with yellow, and with the black zigzag line continued from the primaries, the inner half of the wing pale fawn-colour, slightly dusky along the inner margin; the underside of both wings uniformly greyish-white: head,

antennæ, and thorax greenish-black, the abdomen yellowish-brown, the anus green.—*Female*. Very similar to the male, but considerably larger and rather paler in colour. Expanse  $2\frac{1}{4}$  inches.

*Hab.* MEXICO, Orizaba (*coll. Schaus*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

Allied to *C. viridescens* (Walk.).

#### ÆDEMASIA (I. p. 234).

##### Ædemasia seriata (I. p. 235).

To the localities given, add:—MEXICO, Guadalajara (*Goldsmith, in mus. D.*), Coatepec (*Brooks*); COSTA RICA, Candelaria Mts. (*Underwood*).

##### 2. Ædemasia (?) alcimede. (Tab. XC. fig. 2, ♂.)

*Ædemasia* (?) *alcimede*, Druce, P. Z. S. 1890, p. 510<sup>1</sup>.

*Male*. Primaries dark brown, with a reddish-brown spot and two yellow lines close to the base, a row of greyish-white spots crossing the wing beyond the middle from the costal to the inner margin, and a submarginal row of greyish spots with black points extending from the apex to the anal angle, the fringe dark brown; secondaries uniformly dark brown, the fringe rather paler; the underside brown, with the costal margin of both wings and the fringe yellowish: head, collar, thorax, and antennæ dark brown, the tegulæ golden-brown; the abdomen dark brown above, pale yellowish-white beneath; the legs yellowish-white.—*Female*. Considerably larger than the male and of a much duller colour, the primaries without the greyish and yellow lines and with the base much paler; the underside of a more uniform dusky brown. Expanse, ♂  $1\frac{1}{4}$ , ♀  $1\frac{3}{4}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui (*Champion: ♂<sup>1</sup>*), Chiriqui (*Ribbe, in mus. Staudinger: ♂ ♀<sup>1</sup>*).—ECUADOR, Sarayacu (*Buckley, in mus. D.: ♀<sup>1</sup>*).

A very distinct species, of which both sexes are contained in Dr. Staudinger's collection. A male from the Volcan de Chiriqui is figured.

##### 3. Ædemasia duronia, sp. n. (Tab. XC. fig. 3, ♂.)

*Male*. Primaries pale brownish-fawn-colour, crossed near the base by a narrow white line edged on the outer side with dark brown, beyond which are two indistinct rows of small black dots extending from the costal margin near the apex to the middle of the inner margin, a submarginal row of small black dots edged with white on the inner side extending from the apex to the anal angle, the fringe pale brownish-fawn-colour; secondaries dark brown, the fringe paler; the underside of both wings dark reddish-brown: head, antennæ, thorax, abdomen, and legs brownish-fawn-colour. Expanse  $1\frac{3}{4}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

One specimen.

##### 4. Ædemasia terrena. (Tab. XC. fig. 6, ♂.)

*Ædemasia terrena*, Schaus, P. Z. S. 1892, p. 331<sup>1</sup>.

*Notodonta* (?) *dares*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 356 (1894)<sup>2</sup>.

*Hab.* MEXICO, Coatepec (*coll. Schaus<sup>1</sup>*), Orizaba (*Boucard, in mus. D.<sup>2</sup>*); COSTA RICA, Candelaria Mts. (*Underwood*).

We figure a male from Orizaba. *Æ. terrena* is probably a dark form of the following species, *Æ. xylinata*. The females of both insects are very similar to the males.

5. ***Edemasia xylinata***. (Tab. XC. fig. 7, ♀.)

*Nystalea xylinata*, Walk. Cat. xxxiii. p. 759 (♂) (1865)<sup>1</sup>.

*Nycterotis pæcila*, Feld. Reise der Nov., Lep. t. 97. fig. 20<sup>2</sup>.

*Edemasia maxtla*, Schaus, P. Z. S. 1892, p. 331<sup>3</sup>.

*Notodonta* (?) *pythia*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 356 (♂) (1894)<sup>4</sup>.

*Hab.* MEXICO, Coatepec (*coll. Schaus*<sup>3</sup>), Orizaba (*Boucard, in mus. D.*<sup>4</sup>), Jalapa (*M. Trujillo*).—COLOMBIA, Bogota<sup>1</sup>; VENEZUELA<sup>2</sup>.

We figure a female of this species from Jalapa. The type of *Nystalea xylinata*, Walk., is now in my own collection.

SCHIZURA (to follow the genus *Edemasia*, I. p. 235).

*Schizura*, Doubleday, Ent. i. p. 59 (1841).

*Cælodasys*, Packard, Proc. Ent. Soc. Phil. iii. p. 363 (1864).

1. ***Schizura tonac***. (Tab. XC. fig. 8.)

*Cælodasys tonac*, Schaus, P. Z. S. 1892, p. 330.

*Hab.* MEXICO, Paso de San Juan (*coll. Schaus*).

The type is figured.

DASYLOPHIA (to precede the genus *Edema*, I. p. 235).

*Dasylophia*, Packard, Proc. Ent. Soc. Phil. iii. p. 362 (1864); Monogr. Bombyc. Moths of America north of Mexico, i. p. 172, t. 42. figg. 5, 5 a, 6 (neurulation).

*Hatima*, Walker, Cat. xxxii. p. 450 (1865).

1. ***Dasylophia deba***. (Tab. XC. fig. 10.)

*Hatima deba*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 358 (1894)<sup>1</sup>.

Primaries fawn-colour, shaded with reddish-brown at the base and along the inner margin almost to the anal angle; secondaries pale brown; the fringe of both wings fawn-colour: head and thorax greyish-brown, the antennæ and legs brown, the abdomen pale yellowish-brown. Expanse 1½ inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*<sup>1</sup>).

Two specimens.

2. ***Dasylophia zethus***, sp. n. (Tab. XC. fig. 11, ♀.)

*Female*. Primaries silvery-grey, darker at the base and along the costal margin, the wing being here slightly shaded with brown, a pale indistinct reddish-brown spot at the end of the cell, and a submarginal row of reddish-brown spots extending from the apex to the anal angle; secondaries greyish-white, shaded with greyish-brown at the apex and round the outer margin: head and thorax greyish-brown, the tegulæ silvery-grey, the abdomen pale greyish-brown, the antennæ brown. Expanse 1½ inch.

*Hab.* MEXICO, Jalapa (*coll. Schaus*).

One specimen.

EDEMA (I. p. 235).

***Edema mandela*** (I. p. 235).

To the Mexican locality given, add:—Jalapa (*M. Trujillo*), Temax in Northern Yucatan (*Gaumer*).



4. **Edema lanassa.** (Tab. XC. fig. 9, ♂.)

*Edema lanassa*, Druce, P. Z. S. 1890, p. 509<sup>1</sup>.

*Male.* Primaries olive-green, mottled with dark brown along the costal margin and beyond the cell, a silvery-white spot and streak at the end of the cell, beyond which is a yellowish mark and a row of submarginal minute black dots, the fringe olive-brown; secondaries dark brown, paler at the base, the fringe pale greyish-brown; the underside of the primaries pale brown, with a marginal row of black dots near the apex, that of the secondaries greyish-brown, broadly bordered with darker brown round the outer margin: head, thorax, and anus olive-green; the abdomen dark brown above, pale greyish-brown beneath; the legs pale greyish-brown; the antennæ dark brown; the palpi olive-green, the terminal joint black.—*Female.* Similar to the male, but larger and rather paler in colour. Expanse, ♂ 1½, ♀ 1¾ inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*<sup>1</sup>).

Allied to *E. pulchra*, Butl., from the Amazons.

5. **Edema alata.** (Tab. XC. figg. 12, ♂.)

*Edema alata*, Druce, P. Z. S. 1890, p. 510<sup>1</sup>.

*Male.* Primaries very pale greyish-fawn-colour, speckled along the costal margin and beyond the cell with small brown streaks, a row of very minute brown spots crossing the wing from the apex to about the middle of the inner margin, and several black dots close to the base; secondaries greyish-white, darker at the apex and round the outer margin; the underside as above, but paler, and with the spots on the primaries entirely absent: head, thorax, abdomen, and legs pale fawn-colour, the antennæ dark brown. Expanse 1½ inch.

*Hab.* HONDURAS (*Wittkugel, in mus. Staudinger*); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*<sup>1</sup>).

6. **Edema purpurascens.**

*Amphipyra purpurascens*, Butl. Trans. Ent. Soc. Lond. 1879, p. 37<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—AMAZONS, Manaos<sup>1</sup>.

This species varies greatly in size and colour. The type is in the National Collection.

7. **Edema anica**, sp. n. (Tab. XC. fig. 13, ♂.)

*Male.* Primaries reddish-fawn-colour, darker on the costal half, and crossed from the costal to the inner margin by fainter fawn-coloured waved lines, and also by two rows of small black dots beyond the middle, the fringe alternately light and dark brown; secondaries dark brown, the fringe paler: head, antennæ, abdomen, and legs dark brown, the thorax clothed with long fawn-coloured hairs. Expanse 1¾ inch.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

8. **Edema morona**, sp. n. (Tab. XC. fig. 14, ♂.)

*Male.* Primaries pale greyish-brown, partly crossed near the base from the costal to the inner margin by a wide dark brown band, and beyond the cell by two very indistinct rows of minute black dots with lighter spots on the inner side; secondaries pale brown, darker from the apex to the anal angle; the fringe pale greyish-brown; the underside of both wings very pale, without markings: head, thorax, abdomen, and legs pale greyish-brown, the antennæ dark brown. Expanse 1¾ inch.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*), Obispo (*Salvin, in Mus. Brit.*).

Our figure and description are taken from the specimen from Chiriqui in Dr. Staudinger's collection, it being in much better condition than either of the others.

9. **Edema tlotzin.** (Tab. XC. fig. 15, ♀.)

*Edema tlotzin*, Schaus, P. Z. S. 1892, p. 332 (♀)<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*<sup>1</sup>).

The type is figured.

10. **Edema astuta.**

*Edema astuta*, Schaus, P. Z. S. 1894, p. 242<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).—VENEZUELA, Aroa<sup>1</sup>.

LEPTOSPHECTA (I. p. 236).

**Leptosphetta rabdina** (I. p. 236).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

MAGAVA (to follow the genus *Leptosphetta*, I. p. 236).

*Magava*, Walker, Cat. xxxii. p. 503 (1865).

1. **Magava multilinea.** (Tab. XC. fig. 16, ♀.)

*Magava multilinea*, Walk. Cat. xxxii. p. 503<sup>1</sup>.

*Hab.* COSTA RICA, La Uruca, San José (*in coll. Dognin*); PANAMA, Chiriqui (*Tröttsch, in mus. Staudinger*).

Described by Walker from a specimen in the Norris collection, and the locality given<sup>1</sup> is "Limas." The type is now in the National Museum. I have specimens of both sexes before me, the female being very similar to the male. We figure a female from Chiriqui.

CEROCTENA (to precede the genus *Lochmæus*, I. p. 236).

*Ceroctena*, Guenée, Sp. gén. des Léop. v. p. 9 (1852); Möschler, Verh. zool.-bot. Ges. Wien, xxx. p. 469 (1880).

Guenée places this genus in the Noctuidæ; it is without doubt a Notodont.

1. **Ceroctena agatha.**

*Ceroctena agatha*, Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 470, t. 9. fig. 21<sup>1</sup>.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*); PANAMA, Chiriqui (*Tröttsch, in mus. Staudinger*).—GUIANA, Paramaribo<sup>1</sup>; UPPER AMAZONS.

2. *Ceroctena violascens*.

*Oligocentria violascens*, Herr.-Schäff. Samml. ausserzur. Schmett. p. 66, fig. 385<sup>1</sup>.

*Notodonta violascens*, Herr.-Schäff. loc. cit. p. 82<sup>2</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—BRAZIL.

There are two specimens of this species from Chiriqui, apparently male and female, in Dr. Staudinger's collection. No locality is mentioned by Herrich-Schäffer<sup>1</sup>.

## LOCHMÆUS (I. p. 236).

*Lochmæus albosigma* (I. p. 236). (Tab. XC. fig. 17.)

To the locality given, add:—MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, Cerro Zunil (*Champion*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

The type from the Volcan de Atitlan is now figured.

## HETEROCAMPA (I. p. 236).

9. *Heterocampa satis*, n. n.

*Heterocampa punctata*, anteà, i. p. 238 (nec Cram.).

The name *punctata* is preoccupied in this genus by a species of Cramer's; a new one is therefore required for the Central-American insect described by me under that name.

10. *Heterocampa argentata*. (Tab. XC. fig. 18, ♂.)

*Heterocampa argentata*, Druce, Ann. & Mag. Nat. Hist. (6) xv. p. 49 (1895)<sup>1</sup>.

*Male*. Primaries silvery-grey, the costal and inner margins and the veins near the inner margin spotted with black, a rather large black spot close to the anal angle, the fringe alternately black and grey; secondaries pale greyish-fawn-colour, dusky at the apex and round the outer margin, a small black spot at the anal angle: head, thorax, and tegulæ silvery-grey, the antennæ yellowish-brown, the abdomen greyish-fawn-colour, the legs grey. Expanse  $2\frac{1}{4}$  inches.

*Hab.* COSTA RICA<sup>1</sup>, Candelaria Mts. (*Underwood*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

This fine species is allied to an undescribed Venezuelan insect in my own collection.

11. *Heterocampa montana*, sp. n. (Tab. XC. fig. 19, ♂.)

*Male*. Primaries grey, greenish at the base and along the inner margin, a dark brown spot on the costal margin near the apex, and a fine brown marginal line extending from the apex to the anal angle, the fringe dark grey; secondaries reddish-brown, the fringe paler; the underside of both wings pale greyish-brown: head and thorax grey, the abdomen brown, the antennæ dark brown, the legs pale greyish-brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*).

One specimen. Allied to *H. argentata*, Druce, but much smaller, with the primaries darker grey and the secondaries reddish-brown.



12. **Heterocampa daona.** (Tab. XC. fig. 20, ♀.)

*Heterocampa daona*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 357 (1894)<sup>1</sup>.

Primaries greyish-brown, shaded with pink at the base and along part of the costal margin, a greyish-white band crossing the wing about the middle, beyond which is an ill-defined eye-like spot; secondaries white, the inner and outer margins and the fringe grey: head, thorax, and abdomen greyish-brown. Expanse 2 inches.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*<sup>1</sup>), Yucatan (*in mus. Staudinger: ♂*); COSTA RICA, Candelaria Mts. (*Underwood*).

The Costa Rican specimen is figured; it is larger than the type, and has the primaries more distinctly marked.

13. **Heterocampa crossæa.** (Tab. XC. fig. 21, ♂.)

*Heterocampa* (?) *crossæa*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 357 (1894)<sup>1</sup>.

*Male.* Primaries dark brown, paler near the anal angle, crossed from the costal to the inner margin beyond the middle by several narrow, waved, pale greyish-brown lines, the fringe pale brown; secondaries white, with a large dark brown square-shaped spot at the anal angle: head and thorax brown, the tegulæ pale greyish-brown, the abdomen greyish-brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*<sup>1</sup>).

One specimen.

14. **Heterocampa aconthea**, sp. n. (Tab. XC. fig. 24, ♂.)

*Male.* Primaries dark brown, streaked between the veins with paler brown; secondaries dark brown, with a black spot at the anal angle, the fringe yellowish: head, antennæ, thorax, abdomen, and legs dark brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Orizaba (*coll. Schaus: ♀*); PANAMA, Volcan de Chiriqui (*Tröttsch, in mus. Staudinger: ♂*).

We figure the male from the Volcan de Chiriqui. The female is very similar, but rather larger.

15. **Heterocampa** (?) **nea**, sp. n. (Tab. XC. fig. 22, ♂.)

*Male.* Primaries pinkish-brown, shaded with darker brown along the costal, outer, and inner margins, with a dark brown spot at the end of the cell, from which a brown streak extends to the outer margin, and a row of minute black dots crossing the wing beyond the middle from the costal to the inner margin, the fringe light and dark brown; secondaries pale brownish-grey, broadly bordered from the apex to the anal angle with blackish-brown, the outer margin edged with reddish-brown, the fringe alternately brown and fawn-colour: head and front of the thorax fawn-colour, the rest of the thorax, the abdomen, and legs brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* PANAMA, Chiriqui (*mus. Staudinger*).

One specimen.

16. **Heterocampa sagana.** (Tab. XC. fig. 23, ♂.)

*Heterocampa sagana*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 357 (1894)<sup>1</sup>.

*Male.* Primaries from the base to the middle of the costal margin grey, the outer half of the wing fawn-colour, the inner margin and a large marking beyond the cell thickly irrorated with green scales, the fringe

brown; secondaries uniformly pale reddish-fawn-colour: head, thorax, and tegulæ grey; abdomen fawn-colour, with a central black line extending from the base to the anus; antennæ dark brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*).

One specimen.

17. ***Heterocampa læca***. (Tab. XCI. fig. 2, ♂.)

*Heterocampa læca*, Schaus, P. Z. S. 1892, p. 333 (♂) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*); HONDURAS (*Wittkugel, in mus. Staudinger*); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).—BRAZIL, Rio Janeiro <sup>1</sup>.

The Honduras specimen is figured. The one from the Volcan de Chiriqui has the primaries of a browner grey, with the dark marks smaller and much less distinct.

18. ***Heterocampa* (?) *pylaon***, sp. n. (Tab. XCI. fig. 1, ♂.)

*Male*. Primaries olive-grey, white along the costal margin, with black spots on the latter from which waved darker olive-green lines cross the wing to the inner margin, two black spots and a white streak close to the anal angle, and a submarginal row of black dots extending from the apex to the anal angle, the fringe olive-grey; secondaries very pale fawn-colour, clothed with pale yellowish hairs along the inner margin; the underside of both wings uniformly greyish-white: head and thorax green, the collar white edged with black, the tegulæ olive-grey, the antennæ yellowish-brown, the abdomen greyish-brown, the anus fawn-colour. Expanse  $1\frac{3}{4}$  inch.

*Hab.* HONDURAS (*Wittkugel, in mus. Staudinger*).

One specimen.

19. ***Heterocampa punctata***.

*Phalæna Bombyx punctata*, Cram. Pap. Exot. iv. p. 36, t. 307. fig. F <sup>1</sup>.

*Tifama* (?) *punctata*, Walk. Cat. vii. p. 1752 <sup>2</sup>.

*Hab.* MEXICO, Orizaba (*coll. Schaus*); PANAMA, Chiriqui (*mus. Staudinger*).—GUIANA, Surinam <sup>1 2</sup>.

20. ***Heterocampa* (?) *leona***, sp. n. (Tab. XCI. fig. 6, ♂.)

*Male*. Primaries dark brown, bordered on the costal margin with paler brown, with a small white spot at the base of the cell, joined to another larger spot at the end of it by a fine white line; secondaries dark brown; the underside of both wings uniformly reddish-brown: head, antennæ, thorax, abdomen, and legs dark brown.—*Female*. Very similar to the male, but with simple instead of pectinated antennæ. Expanse, ♂ ♀,  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

Three specimens. This insect will possibly form the type of a new genus.

21. ***Heterocampa* (?) *pyrrha***, sp. n. (Tab. XCI. figg. 4, ♂; 5, ♀.)

*Male*. Primaries greyish-brown, shaded with darker brown, and crossed from the costal to the inner margin by two zigzag black lines—the first near the base, the second beyond the middle,—a few black spots near the apex, the marginal line black, the fringe greyish-brown; secondaries blackish-brown: head, antennæ,

and thorax dark greyish-brown, the abdomen yellowish-brown.—*Female*. Very similar to the male, but larger and paler. Expanse, ♂  $1\frac{3}{4}$ , ♀ 2 inches.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*), State of Jalisco (*Richardson*).

A male and female from the State of Jalisco are figured; those from Presidio are in very bad condition.

## 22. *Heterocampa* —?

*Hab.* MEXICO, Coatepec (*Brooks*).

Two imperfect specimens, unsuitable for description.

## 23. *Heterocampa* —?

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*).

Two specimens, also in worn condition.

## SYMMERISTA (I. p. 239).

### *Symmerista distinguenda* (I. p. 239).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

In Dr. Staudinger's collection there is a specimen from Chiriqui (whence I have already recorded the insect) considerably smaller than any of the others before me, with the secondaries darker; it may belong to another species.

### *Symmerista lineata* (I. p. 240).

To the locality given, add:—MEXICO, Orizaba (*Flohr*), Jalapa (*M. Trujillo*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

## 5. *Symmerista alba*, sp. n. (Tab. XCI. fig. 3, ♂.)

*Male*. Primaries white, thickly irrorated with minute black scales, and crossed beyond the middle from the costal to the inner margin by a narrow waved black line, a zigzag black submarginal line extending from the apex to the anal angle, the fringe white; secondaries white, clothed with yellowish hairs at the base and along the inner margin; the underside of both wings silky-white: head, thorax, and abdomen greyish-white, the antennæ pale yellowish-brown. Expanse 2 inches.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen.

## ROSEMA (I. p. 240).

### *Rosema deolis* (I. p. 240).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*), Coatepec (*Brooks*), Teapa in Tabasco (*H. II. Smith*).

### *Rosema æthra* (I. p. 241).

To the locality given, add:—MEXICO, Orizaba (*Boucard, in mus. D.*).



5. *Rosema epigena*.

*Phalæna Bombyx epigena*, Stoll, Suppl. Cram. Pap. Exot. v. p. 72, t. 16. figg. 1 (larva), 1 A (pupa), 1 B<sup>1</sup>.

*Rosema epigena*, Walk. Cat. v. p. 1170<sup>2</sup>.

*Hab.* MEXICO, Atoyac in Vera Cruz (*H. H. Smith*).—GUIANA, Surinam<sup>1 2</sup>.

6. *Rosema apicalis*.

*Rosema apicalis*, Walk. Cat. v. p. 1169<sup>1</sup>.

*Hab.* HONDURAS (*Dyson*<sup>1</sup>).—BRAZIL, Cabo (*mus. D.*).

7. *Rosema thestia*, sp. n. (Tab. XCI. fig. 8, ♂.)

*Male.* Primaries dull green, with a small brown spot at the end of the cell, the outer margin from the apex almost to the anal angle broadly bordered with brownish-black, a white spot on the inner margin close to the base; secondaries brownish-black, paler at the base: head and tegulæ dull green, the antennæ, thorax, and abdomen dark brown. Expanse 1½ inch.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen. This species differs from all the other known members of the genus in having the secondaries brownish-black instead of white or fawn-colour.

## CERURA (I. p. 241).

2. *Cerura rarata*. (Tab. XCI. fig. 7, ♂.)

*Cerura rarata*, Walk. Cat. xxxii. p. 409 (1865)<sup>1</sup>; Kirby, Cat. Lep. Het. i. p. 588<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*Höge*); GUATEMALA, in the city (*Rodriguez*).—SOUTH AMERICA, Callao<sup>2</sup>.

A specimen from Jalapa is figured. No locality is given by Walker<sup>1</sup>.

3. *Cerura dandon*. (Tab. XCI. fig. 9, ♂.)

*Harpyia dandon*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 358 (♂) (1894)<sup>1</sup>.

*Male.* Primaries and secondaries white; the primaries blotched with black along the costal margin at the apex, and on the inner margin, the fringe alternately black and white: head and collar yellow, the antennæ black; thorax white, with the front black; abdomen black, with the underside, sides, and anus white. Expanse 1¾ inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*).

A Costa Rican specimen is figured.

4. *Cerura platea*.

*Dicranura platea*, Schaus, Ent. Amer. vi. p. 46 (♀) (1890)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).

5. *Cerura* (?) *rhotana*. (Tab. XCI. fig. 14, ♂.)

*Colocasia rhotana*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 354 (1894)<sup>1</sup>.

*Male.* Primaries grey, crossed about the middle from the costal to the inner margin by a wide broken black band, beyond which are two fine waved black lines, the marginal line black, the fringe grey; secondaries

dark greyish-black, the fringe white: head and thorax grey, the abdomen blackish-grey, the legs white, banded with black, the antennæ brown.—*Female*. Very similar to the male. Expanse, ♂  $1\frac{1}{2}$ , ♀  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*<sup>1</sup>), Jalapa (*M. Trujillo*<sup>1</sup>); GUATEMALA, Cahabon (*Champion*<sup>1</sup>), Guatemala city (*Rodriguez*<sup>1</sup>).

A male from Orizaba is figured.

6. **Cerura tenuis**. (Tab. XCI. figg. 16, ♂; 18, ♀.)

*Harpyia* (?) *tenuis*, Schaus, P. Z. S. 1892, p. 336<sup>1</sup>.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).—BRAZIL, Petropolis<sup>1</sup>.

ETOBESA (I. p. 242).

**Etobesa xylinoides** (I. p. 242).

To the localities given, add :—COSTA RICA, Candelaria Mts. (*Underwood*).

MOURALIA (to follow the genus *Etobesa*, I. p. 242).

*Mouralia*, Walker, Cat. xv. p. 1803 (1858).

1. **Mouralia annulifera**. (Tab. XCI. fig. 10.)

*Mouralia annulifera*, Walk. Cat. xv. p. 1803<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).—SAN DOMINGO<sup>1</sup>.

PHYA (I. p. 242).

2. **Phya dela**. (Tab. XCI. fig. 15, ♂.)

*Phya dela*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 355 (1894)<sup>1</sup>.

*Male*. Primaries pale fawn-colour, the costal margin from the base almost to the apex shaded with reddish-brown, with two small black streaks close to the apex, and a wide reddish-fawn-coloured band extending down the middle from the base to the outer margin, the anal angle shaded with dark reddish-brown, the fringe pale fawn-colour; secondaries creamy-white, slightly darker along the inner margin, with a small brown spot at the anal angle, the fringe cream-colour; the underside of both wings creamy-white, the costal margin of the primaries shaded with dark brown: tegulæ dark grey, the abdomen fawn-colour, the legs reddish-brown. Expanse 2 inches.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*<sup>1</sup>), Jalapa (*M. Trujillo*<sup>1</sup>).

Allied to *P. laciniosa*, but differing from it in having a central reddish-fawn-coloured band on the primaries. A male from Orizaba is figured.

3. **Phya salona**. (Tab. XCI. fig. 13, ♂.)

*Phya salona*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 356 (1894)<sup>1</sup>.

*Male*. Primaries pinkish-fawn-colour, shaded with brown along the inner margin from the base to the anal angle, a submarginal black waved line extending from the apex along the outer margin almost to the anal angle, and then partly crossing the wing towards the base, the outer margin pale yellowish-fawn-colour, with two very fine marginal black lines; secondaries white, with the costal and inner margins

fawn-colour: head, antennæ, and thorax brownish-fawn-colour, the abdomen fawn-colour. Expanse 2 inches.

*Hab.* MEXICO, Coatepec (*Brooks*<sup>1</sup>); GUATEMALA (*Rodriguez, in coll. Candèze*).

I have now seen two specimens of this species, both males.

4. **Phya phraortes.** (Tab. XCI. figg. 11, ♂; 12, ♀.)

*Dicentria phraortes*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 93 (1889)<sup>1</sup>.

*Male.* Primaries cream-colour, shaded with brown along the costal margin; secondaries white, slightly hyaline, the fringe yellowish: head, thorax, and abdomen pale brown, the antennæ brown.—*Female.* Primaries dark purplish-brown, with several black streaks near the anal angle; secondaries dusky white: head, antennæ, and thorax brown; the tegulæ and abdomen pale fawn-colour. Expanse, ♂  $1\frac{1}{2}$ , ♀  $2\frac{2}{10}$  inches.

*Hab.* MEXICO, Coatepec (*Brooks*<sup>1</sup>), Jalapa (*coll. Dognin*<sup>1</sup>), Vera Cruz (*H. H. Smith*).

This species is allied to *P. dela*, Druce. We have a good series of both sexes before us, showing very little variation.

5. **Phya** —?

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*).

Two specimens, in very bad condition.

NOTODONTA (to follow the genus *Phya*, I. p. 242).

*Notodonta*, Ochsenheimer, Schmett. Eur. iii. p. 45 (1810); Kirby, Cat. Lep. Het. i. p. 599.

1. **Notodonta dara.** (Tab. XCII. fig. 1.)

*Stilpnotia* (?) *dara*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 355 (1894)<sup>1</sup>.

Primaries and secondaries uniformly silky mouse-colour: head and thorax yellowish-brown, the thorax thickly clothed with long yellowish hairs; abdomen brown, banded with yellow; antennæ yellowish-brown. Expanse  $2\frac{1}{2}$  inches.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*<sup>1</sup>).

One specimen, which is now figured.

TIFAMA (I. p. 242).

**Tifama** (?) *truncata* (I. p. 243).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Santa Clara Valley (*Zürcher*).

3. **Tifama** (?) *dardania.* (Tab. XCI. fig. 17, ♀.)

*Tifama* (?) *dardania*, Druce, Ann. & Mag. Nat. Hist. (6) xv. p. 49 (1895)<sup>1</sup>.

*Female.* Primaries with the base and the costal margin nearly to the apex dark brown, shading inwardly to about the middle to bright reddish-brown, where it is thickly irrorated with white scales, the wing from the centre to the outer margin pale primrose-colour, the apex almost pink, two small dark yellow spots on the middle of the outer margin, the fringe primrose-colour, excepting at the apex, where it is almost pink; secondaries greyish-brown, shading to pale primrose-colour on the outer margin, the fringe primrose-colour: head and antennæ reddish-brown; collar pale yellow, shot with reddish-brown; tegulæ silvery-



grey; thorax and abdomen brown, the latter with the sides and anus yellow; legs brown. Expanse 3 inches.

*Hab.* HONDURAS (*Wittkugel, in mus. Staudinger*); COSTA RICA<sup>1</sup>, Candelaria Mts. (*Underwood*).

Two specimens. The one from Honduras is considerably paler than the Costa Rican type.

#### HAPIGIA (I. p. 243).

##### 3. *Hapigia licormas*.

*Phalæna Noctua licormas*, Cram. Pap. Exot. i. p. 117, t. 74. fig. E (1775)<sup>1</sup>.

*Hapigia* (?) — ?, anteà, i. p. 244.

To the locality given, add:—MEXICO, Orizaba (*Boucard, in mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

##### *Hapigia ribbei* (I. p. 244).

To the locality given, add:—MEXICO, Orizaba (*Flohr; Boucard, in mus. D.*).

##### 5. *Hapigia xolotl*. (Tab. XCI. fig. 19.)

*Hapigia xolotl*, Schaus, P. Z. S. 1892, p. 339<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*<sup>1</sup>).

The type is figured.

#### COLAX (to follow the genus *Hapigia*, I. p. 244).

*Colax*, Hübner, Verz. bek. Schmett. p. 141 (1816).

##### 1. *Colax apulus*.

*Sphinx apulus*, Cram. Pap. Exot. i. p. 139, t. 88. fig. E<sup>1</sup>.

*Colax apulus*, Hübn. Verz. bek. Schmett. p. 141<sup>2</sup>.

*Smerinthus* (?) *apulus*, Walk. Cat. viii. p. 255<sup>3</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbé, in mus. D.*).—GUIANA, Surinam<sup>13</sup>; BRAZIL, Rio Janeiro.

#### DATANA (I. p. 245).

##### *Datana integerrima* (I. p. 245).

To the localities given, add:—MEXICO, Durango city (*Becker*); GUATEMALA, in the city (*Rodriguez*).

#### LIRIMIRIS (I. p. 245).

The single species referred by me to this genus, *L. albolineata*, Druce, from Panama, belongs to *Blera*, Walk., the type of which, *B. ceruroides*, Walk., from Rio Janeiro, is contained in Mr. Fry's collection. Two Central-American species are, however, now known to me.

1. **Lirimiris lignitecta.** (Tab. XCI. fig. 20, ♂.)

*Lirimiris lignitecta*, Walk. Cat. xxxii. p. 469 (1865) <sup>1</sup>.

*Tifama argentifera*, Druce, Ann. & Mag. Nat. Hist. (6) iv. p. 92 (1889) <sup>1</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith* <sup>2</sup>).

No locality is given by Walker <sup>1</sup> for this species; the type is now in the National collection.

2. **Lirimiris (?) mephitis.** (Tab. XCII. fig. 5, ♀.)

*Lirimiris (?) mephitis*, Schaus, P. Z. S. 1894, p. 242 (♀) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus & Mason* <sup>1</sup>); GUATEMALA (*coll. Candèze*).

We figure Mr. Schaus's specimen.

BLERA (to follow the genus *Lirimiris*, I. p. 246).

*Blera*, Walker, Trans. Ent. Soc. Lond. (3) i. p. 255 (1862).

1. **Blera albolineata.**

*Lirimiris albolineata*, Druce, anteà, i. p. 245, t. 25. fig. 10.

2. **Blera bolivari.**

*Blera bolivari*, Schaus, P. Z. S. 1894, p. 243 (♂) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).—VENEZUELA, Aroa <sup>1</sup>; ECUADOR.

This insect is very like *B. albolineata*, Druce, merely differing from it in colour.

3. **Blera veltini.**

*Lirimiris veltini*, Dogn. Le Nat. (2) xii. p. 128 (1890) <sup>1</sup>; Lép. Loja, p. 57, t. 5. fig. 6 (1891) <sup>2</sup>.

*Hab.* PANAMA, Volcan de Chiriqui (*Tröttsch, in mus. Staudinger*).—ECUADOR, Loja <sup>1 2</sup>; PERU.

The sexes of this species are very much alike, except that the male has pectinated antennæ.

CRINODES (I. p. 246).

**Crinodes besckei** (p. 246).

To the localities given, add :—MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Flohr*), Teapa in Tabasco (*H. H. Smith*); COSTA RICA, Santa Clara Valley (*Zürcher*).

**Crinodes ritsemæ.** (Tab. XCII. fig. 4, ♂.)

To the localities given, add :—MEXICO, Jalapa (*M. Trujillo*), Atoyac in Vera Cruz (*H. H. Smith*), Tapachula in Chiapas (*Höge*); GUATEMALA, in the city (*Rodriguez*).

We now figure a male of this species from Tapachula.

4. **Crinodes abscondens.** (Tab. XCII. fig. 7, ♂.)

*Crino abscondens*, Walk. Cat. xiv. p. 1347 (1858)<sup>1</sup>.

*Hab.* MEXICO, San Lorenzo near Cordova (*M. Trujillo*), Yucatan (*mus. Staudinger*); COSTA RICA, Candelaria Mts. (*Underwood*).—COLOMBIA, Bogota<sup>1</sup>.

The specimen from San Lorenzo is figured.

NAPREPA.

*Naprepa*, Walker, Cat. v. p. 1046 (1855).

*Ophitis*, Felder, anteà, i. p. 247 (1874).

1. **Naprepa cyllota.**

*Ophitis cyllota*, anteà, i. p. 247, t. 25. fig. 14.

To the locality given, add:—MEXICO, Jalapa (*M. Trujillo*); HONDURAS (*Wittkugel*, in *mus. Staudinger*).

The Honduras specimen differs from the others in having the primaries more heavily marked with dark brown.

2. **Naprepa pulcheria.** (Tab. XCII. fig. 10, ♂.)

*Ophitis pulcheria*, Druce, Ann. & Mag. Nat. Hist. (6) xvi. p. 38 (1895)<sup>1</sup>.

Primaries brownish-fawn-colour, marked with darker brown spots at the base and along part of the costal margin, a waved brown band partly crossing the wing beyond the middle from the inner margin to about two-thirds across the wing, where it joins a fine zigzag white line, the latter extending to the costal margin just above the apex, the fringe brown; secondaries pale fawn-colour, slightly darker round the outer margin, with two short brownish-black lines at the anal angle, the fringe greyish-brown: head, antennæ, thorax, and abdomen brownish-fawn-colour, the thorax with some greyish scales, the third abdominal segment blackish-brown, the legs pale brown. Expanse 3 inches.

*Hab.* PANAMA, Chiriqui (*Trötsch*, in *mus. D.*<sup>1</sup>).

Allied to *N. cyllota*, but much smaller.

NYSTALEA (I. p. 248).

**Nystalea ebalea** (I. p. 248).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Flohr*); GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

**Nystalea seminivea** (I. p. 249).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Santa Clara Valley (*Zürcher*), Candelaria Mts. (*Underwood*).

8. **Nystalea virgula.**

*Nystalea virgula*, Feld. Reise der Nov., Lep. t. 98. fig. 3 (♂)<sup>1</sup>.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch*, in *mus. Staudinger*).—AMAZONS<sup>1</sup>; BRAZIL.



9. *Nystalea sambana*. (Tab. XCII. figg. 13, ♀.)

*Nystalea sambana*, Druce, Ann. & Mag. Nat. Hist. (6) xv. p. 50 (1895)<sup>1</sup>.

*Female*. Primaries dusky grey, with several reddish-brown spots at the apex, a black curved line crossing the wing near the base from the costal to the inner margin, and a large silvery-grey patch at the anal angle extending partly along the inner margin; secondaries pale grey, broadly bordered from the apex to the anal angle with darker grey; the fringe silvery-grey: head, collar, and tegulæ yellowish-brown, the thorax silvery-grey; the abdomen dusky grey above, pale grey beneath, the anus yellowish-brown.—

*Male*. Very similar to the female, but considerably smaller. Expanse, ♂ 2, ♀ 2¾ inches.

*Hab.* COSTA RICA<sup>1</sup>, Candelaria Mts. (*Underwood*: ♀); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*: ♂).

10. *Nystalea* (?) *demea*. (Tab. XCII. fig. 12, ♂.)

*Nystalea demea*, Druce, Ann. & Mag. Nat. Hist. (6) xv. p. 50 (1895)<sup>1</sup>.

*Male*. Primaries greyish-fawn-colour, with two small black dots at the end of the cell, from which a black line bordered with reddish-brown and with a small white streak in the middle extends to the outer margin, a dark brown spot and streak on the inner margin close to the base, and several faint brown marks near the anal angle; secondaries dusky fawn-colour: head reddish-brown, the antennæ yellowish-brown, the tegulæ and thorax greyish-fawn-colour, the latter reddish-brown in front; the abdomen blackish-grey above, with the base yellowish, paler beneath, the anal tuft greyish-fawn-colour.—

*Female*. Very similar to the male, but larger and rather darker. Expanse, ♂ 2½, ♀ 3 inches.

*Hab.* COSTA RICA<sup>1</sup>, Candelaria Mts. (*Underwood*); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).

11. *Nystalea sabella*. (Tab. XCII. figg. 2, ♀; 6, ♂.)

*Nystalea sabella*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 359 (1894)<sup>1</sup>.

*Female*. Primaries silvery-grey, clouded with yellowish-brown at the base and along the inner margin, an indistinct brown line crossing the wing beyond the middle from the costal to the inner margin, beyond which are two rows of small black dots, the fringe yellowish-brown; secondaries greyish-brown, paler at the base: head, antennæ, and thorax pale brown, the abdomen darker brown, the legs yellowish-brown. Expanse, ♂ 2, ♀ 2½ inches.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*<sup>1</sup>: ♀); PANAMA, Chiriqui (*mus. Staudinger*: ♂).

Two specimens.

12. *Nystalea plusia*.

*Nystalea plusia*, Feld. Reise der Nov., Lep. t. 97. fig. 7 (♀) (1874)<sup>1</sup>.

*Hab.* COSTA RICA, Santa Clara Valley (*Zürcher*); PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger*).—GUIANA<sup>1</sup>.

Two specimens, agreeing with Felder's figure.

13. *Nystalea danala*. (Tab. XCII. fig. 11, ♀.)

*Dasylophia* (?) *danala*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 357 (1894)<sup>1</sup>.

*Male*. Primaries dark brown, crossed from the costal to the inner margin by narrow waved black lines, and with a reddish-brown spot at the end of the cell, a waved pale brown submarginal line extending from the apex to the anal angle, and a marginal row of small black dots, those nearest the apex larger than the others, the fringe dark brown; secondaries blackish-brown, with the base, inner margin, and fringe pale

yellow: head, palpi, antennæ, and thorax dark brown; abdomen brown above, yellow beneath; legs yellow.—*Female*. Very similar to the male, but larger and with the base of the secondaries much darker. Expanse, ♂  $2\frac{1}{10}$ , ♀  $\frac{3}{10}$  inches.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*<sup>1</sup>); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*<sup>1</sup>).

A female from Chiriqui is figured.

#### 14. *Nystalea attenuata*.

*Nystalea attenuata*, Walk. Cat. xv. p. 1743 (1858)<sup>1</sup>.

*Nystalea ancora*, Feld. Reise der Nov., Lep. t. 97. fig. 8 (♂) (1874)<sup>2</sup>.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—VENEZUELA<sup>1</sup>; AMAZONS<sup>2</sup>.

Several specimens of this species have been received from Orizaba.

#### 15. *Nystalea arecosa*. (Tab. XCII. fig. 8, ♂.)

*Nystalea arecosa*, Druce, Ann. & Mag. Nat. Hist. (7) i. p. 148 (Feb. 1898)<sup>1</sup>.

*Male*. Primaries brownish-grey, crossed near the base from the costal to the inner margin by a rather wide brown band, which becomes much paler near the inner margin, and with three small brown spots on the costal margin and a large brown patch near the apex, below which is a smaller brown spot, the outer margin at the apex edged with brown; secondaries greyish-white, clouded with brown from the apex to the anal angle, the fringe greyish-white; the underside of both wings white, shaded with reddish-brown along the costal margins: head, antennæ, thorax, and basal half of the abdomen greyish-brown, the rest of the abdomen greyish-white. Expanse  $1\frac{3}{4}$  inch.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

One specimen.

### ARHACIA (to follow the genus *Nystalea*, I. p. 249).

*Arhacia*, Herrich-Schäffer, Samml. aussereur. Schmett. p. 11 (1855); Kirby, Cat. Lep. Het. i. p. 619.

*Anodonta*, Herrich-Schäffer, loc. cit. p. 78 (1856); Walker, Cat. v. p. 1018 (1855).

#### 1. *Arhacia combusta*.

*Arhacia combusta*, Herr.-Schäff. Samml. aussereur. Schmett. p. 11, figg. 81, 82<sup>1</sup>.

*Drymonia combusta*, Herr.-Schäff. loc. cit. p. 66<sup>2</sup>.

*Anodonta combusta*, Herr.-Schäff. loc. cit. p. 78<sup>3</sup>; Walk. Cat. v. p. 1018<sup>4</sup>.

*Anodonta fascis*, Schaus, Ent. Amer. vi. p. 47 (1890)<sup>5</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>5</sup>).—BRAZIL<sup>4</sup>, Rio Janeiro<sup>4</sup>.

The insect described by Mr. Schaus under the name of *Anodonta fascis* is, without doubt, a very fine large male of this species. Both Sir George Hampson and myself have very carefully compared it with the females of *A. combusta* in the National Museum. No locality is mentioned by Herrich-Schäffer.

RIFARGIA (to precede the genus *Ecregma*, I. p. 249).

*Rifargia*, Walker, Trans. Ent. Soc. Lond. (3) i. p. 258 (1862).

1. **Rifargia masta.** (Tab. XCII. fig. 9.)

*Rifargia masta*, Schaus, P. Z. S. 1894, p. 241<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>; *M. Trujillo*), Orizaba (*Boucard, in mus. D.*); GUATEMALA, in the city (*Rodriguez*).

Mr. Schaus's type is figured.

2. **Rifargia gelduba.** (Tab. XCII. fig. 3, ♀.)

*Rifargia gelduba*, Schaus, P. Z. S. 1892, p. 339 (♀)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).

The type is figured.

ECREGMA (I. p. 249).

**Ecregma modesta** (I. p. 249).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

HEMICERAS (I. p. 249).

**Hemiceras pallidula** (I. p. 250).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Flohr*), Teapa in Tabasco (*H. H. Smith*); COSTA RICA, Santa Clara Valley (*Zürcher*).

**Hemiceras trinubila** (I. p. 250).

To the localities given, add:—MEXICO, Coatepec (*Brooks*), Teapa in Tabasco (*H. H. Smith*); COSTA RICA, Candelaria Mts. (*Underwood*).

**Hemiceras pulverula** (I. p. 250).

To the localities given, add:—MEXICO, Jalapa, Cuesta de Misantla (*M. Trujillo*).

COMIDAVA (I. p. 251).

**Comidava obliquilinea** (I. p. 251).

To the localities given, add:—GUATEMALA, in the city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*), Santa Clara Valley (*Zürcher*).



## ORÆSIA (I. p. 253).

3. *Oræsia nobilis*.

*Oræsia nobilis*, Feld. & Rogenh. Reise der Nov., Lep. t. 111. fig. 7<sup>1</sup>.

*Hab.* PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—AMAZONS<sup>1</sup>.

## GADERA (I. p. 253).

*Gadera repellens* (I. p. 253).

To the localities given, add:—MEXICO, Orizaba (*Flohr*); COSTA RICA, Candelaria Mts. (*Underwood*).

## GONODONTA (I. p. 253).

*Gonodonta choninea* (I. p. 255).

To the localities given, add:—MEXICO, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*).

*Gonodonta lincus* (I. p. 255).

To the localities given, add:—MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, in the city (*Rodriguez*).

*Gonodonta pyrgo* (I. p. 256).

To the localities given, add:—MEXICO, Durango city (*Becker*), Dos Arroyos in Guerrero (*H. H. Smith*), Omealca (*M. Trujillo*); GUATEMALA, in the city (*Rodriguez*); NICARAGUA, Matagalpa (*Richardson*); COSTA RICA, Candelaria Mts. (*Underwood*).

*Gonodonta holosericea* (I. p. 256).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*).

*Gonodonta hesione* (I. p. 256).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

## THYATIRA (I. p. 257).

*Thyatira batis*, var. *mexicana* (I. p. 257).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, Guatemala city (*Rodriguez*).

*Thyatira heurippa* (I. p. 258).

To the locality given, add:—MEXICO, Orizaba (*Boucard, in mus. D.*), Jalapa (*M. Trujillo*).

MICROCÆLIA (to precede the genus *Panthea*, I. p. 259).

*Microcælia*, Guenée, Sp. gén. des Lép. v. p. 33 (1852); Walker, Cat. ix. p. 30.

1. ***Microcælia vesta*.**

*Microcælia vesta*, Schaus, Trans. Am. Ent. Soc. xxi. p. 223 (1894)<sup>1</sup>.

*Hab.* MEXICO, Coatepec (*coll. Schaus*<sup>1</sup>).

PANTHEA (I. p. 259).

2. ***Panthea illudens*.**

♀. *Diphthera illudens*, Walk. Cat. ix. p. 37<sup>1</sup>.

♂. *Panthea pythion*, Druce, anteà, i. p. 259, t. 26. fig. 6.

To the locality given, add:—MEXICO, Orizaba (*Boucard, in mus. D.*), Jalapa (*M. Trujillo*).—Venezuela<sup>1</sup>.

We have now received specimens of both sexes of this insect from Mexico.

LICHNOPTERA (to follow the genus *Panthea*, I. p. 259).

*Lichnoptera*, Herrich-Schäffer, Samml. aussereur. Schmett. pp. 14, 16 (1856); Walker, Cat. xxxi. p. 307.

This genus is very closely allied to *Panthea*, Hübn., and may prove to be inseparable from it.

1. ***Lichnoptera felina*, sp. n.** (Tab. XCIII. figg. 1, ♂; 2, ♀.)

*Male*. Primaries white, crossed from the costal to the inner margin by a number of waved black lines, and irrorated about the middle with a few black scales, the fringe alternately black and white; secondaries white, with a narrow black streak at the anal angle, the fringe white: head, thorax, and tegulæ white, the latter with three black spots; abdomen chrome-yellow, with a row of black spots edged with white down the middle, the anal tuft white.—*Female*. Very similar to the male, but considerably larger, the primaries with wider and more distinct lines. In some specimens, both male and female, the secondaries are clouded with black. Expanse, ♂ 1 $\frac{3}{4}$ , ♀ 2 $\frac{3}{4}$  inches.

*Hab.* MEXICO, Durango city (*Becker*), Guadalajara in Jalisco (*Goldsmith, in mus. D.*), Amula in Guerrero (*H. H. Smith*), Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*), Coatepec (*Brooks*), Cordova (*Rümeli*); GUATEMALA, Guatemala city (*Rodriguez*), Quiche Mts. 7000–9000 feet (*Champion*); COSTA RICA (*Van Patten*), Candelaria Mts. (*Underwood*).

This species appears to be common throughout our region. We figure a male and female from the Candelaria Mountains.

## ACRONYCTA (I. p. 260).

3. **Acronycta theodora.** (Tab. XCIII. fig. 3.)

*Acronycta theodora*, Schaus, Trans. Am. Ent. Soc. xxi. p. 223 (1894) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>, *M. Trujillo*); GUATEMALA, Guatemala city (*Rodriguez*).

We have received a specimen from Jalapa, agreeing well with Mr. Schaus's type.

4. **Acronycta velia.** (Tab. XCIII. fig. 4.)

*Acronycta velia*, Schaus, Trans. Am. Ent. Soc. xxi. p. 223 (1894) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>); GUATEMALA, Guatemala city (*Rodriguez*).

The Guatemalan specimen is figured.

CYATHISSA (to follow the genus *Acronycta*, I. p. 260).

*Cyathissa*, Grote, Bull. Geol. and Geogr. Surv. vi. p. 576 (1881).

1. **Cyathissa violascens.**

*Cyathissa violascens*, Schaus, Trans. Am. Ent. Soc. xxi. p. 225 (1894) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).—BRAZIL, Rio Janeiro <sup>1</sup>.

CHARADRA (to follow the genus *Cyathissa*).

*Charadra*, Walker, Cat. xxxii. p. 445 (1865).

This genus was accidentally omitted by me in the earlier part of this work.

1. **Charadra nigracreta.**

*Charadra nigracreta*, H. Edwards, Papilio, iv. p. 17 (♂) (1884) <sup>1</sup>.

*Hab.* MEXICO, State of Vera Cruz (*Schaus*<sup>1</sup>).

CHYTONIX (to follow the genus *Charadra*).

*Chytonix*, Grote, Bull. Buff. Soc. ii. p. 66 (1874).

1. **Chytonix kalma.**

*Chytonix kalma*, Schaus, Trans. Am. Ent. Soc. xxi. p. 225 (1894) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).

2. **Chytonix morata.**

*Chytonix morata*, Schaus, Trans. Am. Ent. Soc. xxi. p. 225 (1894) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).



## LEUCANIA (I. p. 260).

**Leucania extincta** (I. p. 261).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

**7. Leucania rodea.**

*Leucanea rodea*, Schaus, Trans. Am. Ent. Soc. xxi. p. 232 (1894) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus* <sup>1</sup>).

JUNCARIA (to follow the genus *Leucania*, I. p. 262).

*Juncaria*, Walker, Cat. xv. p. 1636 (1858).

**1. Juncaria pallens**, sp. n. (Tab. XCIII. fig. 5.)

Primaries pale brownish-white, crossed beyond the middle from the costal to the inner margin by two waved lines, and with a black dot at the end of the cell, another in the middle of the cell, and a marginal row of black spots extending from the apex to the anal angle; secondaries paler than the primaries, darker round the outer margin, with a marginal row of black dots extending from the apex to the anal angle: head, antennæ, palpi, thorax, and legs pale brownish-white; the abdomen yellowish-brown above, paler beneath. Expanse  $1\frac{1}{2}$  inch.

*Hab.* PANAMA, Bugaba (*Champion*).

One specimen. Allied to *J. dorsivitta*, Walk., from Venezuela.

**2. Juncaria samia**, sp. n. (Tab. XCIII. fig. 6.)

*Male.* Primaries and secondaries pale brownish-white; the primaries with a slightly darker spot at the end of the cell, beyond which the wing is crossed from the costal to the inner margin by two rows of small black dots, the outer margin spotted with black: head, antennæ, thorax, abdomen, and legs pale brownish-white. Expanse  $1\frac{4}{10}$  inch.

*Hab.* COSTA RICA, Volcan de Irazu, 6000 to 7000 feet (*Rogers*).

Two specimens.

## OBRIMA (I. p. 262).

**2. Obrima rinconada.**

*Obrima rinconada*, Schaus, Trans. Am. Ent. Soc. xxi. p. 240 (1894) <sup>1</sup>.

*Hab.* MEXICO, Riconada (*coll. Schaus* <sup>1</sup>).

## EUGLYPHIA (I. p. 263).

**Euglyphia hieroglyphica** (I. p. 263).

To the localities given, add:—MEXICO, Durango city (*Becker*), Guadalajara in Jalisco (*Goldsmith, in mus. D.*), Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*), Temax in Northern Yucatan (*Gaumer*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood*).

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CHASMINA (to follow the genus *Giscala*, I. p. 265).

*Chasmina*, Walker, Cat. ix. p. 146 (1856).

The species of this genus are mostly eastern.

1. *Chasmina alcidamea*. (Tab. XCIII. fig. 7, ♂.)

*Chasmina alcidamea*, Druce, P. Z. S. 1890, p. 512<sup>1</sup>.

*Male*. Pure white, excepting the antennæ and the last four segments of the abdomen, which are tinged with pale yellow.—*Female*. Similar to the male, but with the primaries crossed beyond the middle from the costal to the inner margin by two very faint yellow lines. Expanse, ♂ ♀, 1½ inch.

*Hab*. GUATEMALA, Guatemala city (*Rodriguez*<sup>1</sup>).

One specimen.

This species can be at once distinguished from all the Eastern *Chasminæ* known to me by the tibiæ and tarsi being quite white, instead of yellow or orange, spotted with black. For a specimen of the female I am indebted to M. Candèze.

ISCADIA (to follow the genus *Xylophasia*, I. p. 267).

*Iscadia*, Walker, Cat. xi. p. 724 (1857).

The type of this genus, *I. aperta*, from San Domingo, has remarkably long palpi. The insect also occurs in Central America.

1. *Iscadia aperta*. (Tab. XCIII. fig. 8.)

*Iscadia aperta*, Walk. Cat. xi. p. 725 (♂)<sup>1</sup>.

*Hab*. MEXICO, Northern Sonora (*Morrison*), Jalapa (*M. Trujillo*); GUATEMALA, Guatemala city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*), Santa Clara Valley (*Zürcher*).—ANTILLES, San Domingo<sup>1</sup>.

This species varies greatly in size and colour. One of our specimens, from the Santa Clara valley, has the secondaries dark brown. We figure an example from Jalapa, which appears to be the normal form.

AUCHMIS (to precede the genus *Laphygma*, I. p. 267).

*Auchmis*, Hübner, Verz. bek. Schmett. p. 243 (part.) (1816); Walker, Cat. xi. p. 614.

1. *Auchmis ramosula*.

*Cloantha ramosula*, Guen. Sp. gén. des Lép. vi. p. 114<sup>1</sup>.

*Auchmis ramosula*, Walk. Cat. xi. p. 616<sup>2</sup>.

*Hab*. NORTH AMERICA<sup>1 2</sup>.—MEXICO, Jalapa (*M. Trujillo*).

Two specimens from Jalapa, agreeing well with those so named in the British Museum.

## LAPHYGMA (I. p. 267).

**Laphygma macra** (I. p. 267).

To the localities given, add :—COSTA RICA, Candelaria Mts. (*Underwood*).

## PRODENIA (I. p. 268).

**Prodenia variolosa** (I. p. 269).

To the localities given, add :—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

## DARGIDA (I. p. 270).

**Dargida singularis** (I. p. 270).

To the localities given, add :—COSTA RICA, Candelaria Mts. (*Underwood*).

**Dargida niphanda** (I. p. 270).

To the locality given, add :—MEXICO, Jalapa (*M. Trujillo*), Atoyac in Vera Cruz (*H. H. Smith*); GUATEMALA, Volcan de Atitlan (*Champion*); COSTA RICA, Candelaria Mts. (*Underwood*).

8. **Dargida lineata**, sp. n. (Tab. XCIII. fig. 18.)

Primaries dark purplish-brown, very similar in marking to those of *D. singularis*, Butl., but without the green spot on the inner margin, a narrow white submarginal line edged on the outer side with pale brown extending from the apex to the anal angle, the costal margin near the base streaked with greenish-brown, the fringe dark brown; secondaries brown, paler at the base: head, antennæ, thorax, and abdomen brown, the legs reddish-brown. Expanse 2 inches.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*).

CONSERVULA (to follow the genus *Dargida*, I. p. 271).

*Conservula*, Grote, Bull. Buff. Soc. ii. p. 17 (1874).

1. **Conservula clauda**.

*Conservula clauda*, Schaus, Trans. Am. Ent. Soc. xxi. p. 231 (1894) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus* <sup>1</sup>, *M. Trujillo*).

2. **Conservula cedica**, sp. n. (Tab. XCIII. figg. 9, ♂; 10, ♀.)

*Male*. Primaries dark brown, crossed from the costal margin near the apex to the inner margin by a very distinct pale band; secondaries semihyaline white, shaded with brown along the costal margin and at the apex: head, antennæ, thorax, abdomen, and legs dark brown, the anal tuft pale brown.—*Female*.

Very similar to the male, but with the secondaries dark brown. Expanse, ♂  $1\frac{3}{10}$ , ♀  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*: ♂), Orizaba (*Boucard, in mus. D.*: ♀); PANAMA, Volcan de Chiriqui (*Champion*).

Three specimens. The Jalapa male and the Orizaba female are figured.



## MAMESTRA (I. p. 272).

**Mamestra dotata** (I. p. 273).

To the localities given, add :—COSTA RICA, Candelaria Mts. (*Underwood*).

3 (A). **Mamestra niveipuncta**.

*Mamestra niveipuncta*, Schaus, Trans. Am. Ent. Soc. xxi. p. 228 (1894) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus* <sup>1</sup>).

Mr. Schaus states that this species is closely allied to *M. dotata*, Druce.

5. **Mamestra marea**.

*Mamestra marea*, Schaus, Trans. Am. Ent. Soc. xxi. p. 227 (1894) <sup>1</sup>.

*Hab.* Jalapa (*coll. Schaus* <sup>1</sup>).

6. **Mamestra infernalis**. (Tab. XCIII. fig. 11.)

*Mamestra infernalis*, Schaus, Trans. Am. Ent. Soc. xxi. p. 227 (1894) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus* <sup>1</sup>; *mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood*).

A specimen from Jalapa, from my own collection, is figured.

7. **Mamestra rhadata**. (Tab. XCIII. fig. 12.)

*Mamestra rhadata*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 360 (1894) <sup>1</sup>.

Primaries very dark brown, with a small black spot in the cell and another at the end of the cell, two fine waved black lines crossing the wing from the costal to the inner margin—the first near the base, the second beyond the middle,—and a rather large reddish-brown spot close to the anal angle, the fringe dark brown; secondaries brown, whitish-hyaline near the base: head, thorax, and abdomen dark brown, the antennæ and palpi brown. Expanse 2 inches.

*Hab.* MEXICO, Orizaba (*mus. D.* <sup>1</sup>).

8. **Mamestra seminaria**.

*Mamestra seminaria*, Schaus, Trans. Am. Ent. Soc. xxi. p. 227 (1894) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus* <sup>1</sup>).

9. **Mamestra samula**, sp. n. (Tab. XCIII. fig. 16, ♂.)

*Male.* Primaries very dark reddish-brown, with a round grey spot at the end of the cell, beyond which the wing is crossed from the apex nearly to the inner margin by a row of black points, the fringe dark brown; secondaries dark brown, paler at the base, the fringe pale brown: head, antennæ, and thorax dark brown, the abdomen paler. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood*).

10. **Mamestra roxana**, sp. n. (Tab. XCIII. fig. 17.)

Primaries reddish-brown, clouded with darker brown about the middle, and with a small white spot at the end of the cell, beyond which the wing is crossed from the costal to the inner margin by a wide pale

reddish-brown band edged on both sides with minute black dots, the fringe dark brown; secondaries dark brown, the fringe pale yellowish-brown; the underside pale grey, both wings broadly bordered with dark brown: head, thorax, and abdomen reddish-brown, the antennæ dark brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*).

The Orizaba specimens are rather paler than the one from Jalapa, which is figured.

11. **Mamestra sadales**, sp. n. (Tab. XCIII. fig. 19.)

Primaries almost black, crossed near the base and along the outer margin by several blacker lines, the fringe black; secondaries dusky brownish-white, paler in the middle and at the base, the fringe dark brown: head, antennæ, and thorax black, the abdomen brownish-black, the legs blackish-brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Omilteme in Guerrero 8000 feet (*H. H. Smith*).

One specimen.

TRICHOLITA (to follow the genus *Mamestra*, I. p. 273).

*Tricholita*, Grote, Bull. Buff. Soc. ii. p. 215 (1875).

1. **Tricholita (?) variata**.

*Tricholita (?) variata*, Schaus, Trans. Am. Ent. Soc. xxi. p. 231 (1894) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus* <sup>1</sup>).

APAMEA (I. p. 273).

3. **Apamea mutina**.

*Apamea mutina*, Schaus, Trans. Am. Ent. Soc. xxi. p. 238 (1894) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus* <sup>1</sup>).

4. **Apamea mammida**, sp. n. (Tab. XCIII. fig. 20.)

Primaries pale brown, streaked with darker brown, and with two very indistinct waved lines crossing the wing beyond the middle, the fringe brown; secondaries whitish, broadly bordered with dark brown: head, antennæ, thorax, and abdomen dark brown. Expanse  $1\frac{1}{10}$  inch.

*Hab.* GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

Two specimens.

5. **Apamea lætrina**, sp. n. (Tab. XCIII. fig. 21.)

*Male*. Primaries dull brown, spotted with black beyond the middle, the base, a spot at the end of the cell, and a few streaks near the apex greyish-white, the fringe dark brown; secondaries dark brown, paler at the base and along the inner margin, the fringe brown: head, antennæ, thorax, and abdomen dark brown.—

*Female*. Very similar to the male. Expanse  $1\frac{3}{10}$  inch.

*Hab.* MEXICO, Omilteme in Guerrero 8000 feet (*H. H. Smith*).

6. **Apamea (?) euryte**, sp. n. (Tab. XCIII. fig. 22, ♂.)

*Male*. Primaries brownish-fawn-colour, paler along the costal margin, with several dark brown markings

about the end of the cell, beyond which a brown line extends from the apex to the inner margin, the inner margin shaded with brown; secondaries pale brownish-fawn-colour, the fringe lighter: head, thorax, and legs brownish-fawn-colour; the abdomen blackish-brown, the anal tuft fawn-colour.—*Female*. Very similar to the male, but considerably paler in colour. Expanse, ♂  $1\frac{1}{4}$ , ♀  $1\frac{3}{10}$  inch.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

#### ACHATODES (to follow the genus *Apamea*, I. p. 273).

*Achatodes*, Guenée, Sp. gén. des Lép. v. p. 132 (1852); Walker, Cat. ix. p. 166.

##### 1. *Achatodes juanæ*. (Tab. XCIII. fig. 15, ♂.)

*Achatodes juanæ*, Schaus, Trans. Am. Ent. Soc. xxi. p. 232 (1894) <sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus* <sup>1</sup>), Teapa in Tabasco (*coll. Schaus*; *Höge*; *M. Trujillo*).

We figure a male from Jalapa sent us by Herr Höge, agreeing with Mr. Schaus's type. The female is very similar, but larger.

#### CELÆNA (I. p. 274).

##### 8. *Celæna datis*. (Tab. XCIII. fig. 13, ♀.)

*Celæna datis*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 359 (1894) <sup>1</sup>.

*Female*. Primaries greyish-black, with a spot close to the base, two spots beyond the cell, and a marginal row of spots extending from the apex to the anal angle all reddish-brown, the fringe alternately black and white; secondaries brownish-hyaline, the veins and outer margin darker brown: head, thorax, and abdomen dark greyish-black, thickly irrorated with reddish-brown hairs. Expanse 1 inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo* <sup>1</sup>).

Since this species was described we have received specimens of the male. They are very similar to the female, but brighter in colour, with the hind wings whiter and the anal tuft yellow.

##### 9. *Celæna* (?) *lilacina*. (Tab. XCIII. fig. 14, ♂.)

*Celæna* (?) *lilacina*, Druce, P. Z. S. 1890, p. 512 <sup>1</sup>.

*Male*. Primaries dark brown, crossed from the costal to the inner margin by three purplish-grey bands—the first close to the base, the second beyond the cell, the third submarginal,—the fringe dark brown; secondaries dull brown, slightly paler at the base, the fringe pale brown; the underside pale brown: head, thorax, and antennæ dark brown; the abdomen dark brown, the anus and underside pale brown.—*Female*. Similar to the male. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Atoyac in Vera Cruz (*Schumann*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion* <sup>1</sup>), Chiriqui (*Ribbe, in mus. Staudinger* <sup>1</sup>).—ECUADOR <sup>1</sup>.

##### 10. *Celæna albomarginata*, sp. n. (Tab. XCIII. fig. 23.)

Primaries purplish-black near the base on the inner margin and near the apex, the outer margin from the apex to the anal angle broadly bordered with greyish-white, and with a large white spot below the cell, a pinkish Y-shaped mark crossing the wing from about the middle of the costal margin almost to the anal angle, beyond which is a narrow yellowish-white waved line; secondaries blackish-brown, paler at



the base, the fringe alternately black and white: head and thorax greyish-brown, the abdomen blackish-brown, the antennæ black; the legs black, banded with white on the upperside. Expanse  $1\frac{4}{10}$  inch.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*).

One specimen.

11. *Celæna viridis*, sp. n. (Tab. XCIII. fig. 24.)

*Male.* Primaries pale olive-green, crossed by two waved white lines—the first near the base, the second beyond the middle,—and with a rather large white spot close to the apex, two black lines at the end of the cell, and two pinkish markings near the anal angle; secondaries blackish-brown; the fringe of both wings greenish-yellow: head and thorax olive-green; the abdomen greenish-black, the anus yellowish-green; the antennæ and palpi black. Expanse  $1\frac{1}{4}$  inch.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*).

One specimen.

12. *Celæna quadrilineata*?

*Mamestra* (*Diathæcia*?) *quadrilineata*, Grote, Bull. Buff. Soc. i. p. 140, t. 4. fig. 15 (♂) (1873)<sup>1</sup>; J. B. Smith, Cat. Noct. Bor. Am. (Bull. U.S. Nat. Mus. no. 44) p. 126<sup>2</sup>.

*Hab.* NORTH AMERICA, California<sup>1 2</sup>, Arizona<sup>2</sup>.—MEXICO, Jalapa (*M. Trujillo*).

A pair from Jalapa, very similar to Grote's figure of *M. quadrilineata*, the types of which are in the late Henry Edwards's collection and in that of the British Museum.

13. *Celæna nigropuncta*, sp. n. (Tab. XCIII. fig. 25.)

Primaries pale brown, crossed from the costal to the inner margin by three waved darker brown lines—the first close to the base, the second at the end of the cell, and the third beyond the cell,—with a white streak at the end of the cell, a white submarginal waved line extending from the apex to the anal angle, and on the outer side of the white line, close to the apex, a rather large, elongated, black spot, a few small black spots near the anal angle, the fringe alternately black and brown; secondaries dark brown, the fringe yellowish-brown: head, antennæ, and thorax brown (abdomen wanting). Expanse 1 inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

One specimen.

HYDRÆCIA (to follow the genus *Celæna*, I. p. 276).

*Hydræcia*, Guenée, Ann. Soc. Ent. Fr. 1841, p. 237 (sine descr.); Walker, Cat. ix. p. 158.

*Hydræcia*, Guenée, Sp. gén. des Léop. v. p. 125.

1. *Hydræcia pyrrha*. (Tab. XCV. fig. 1.)

*Hydræcia pyrrha*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 359 (1894)<sup>1</sup>.

Primaries dark reddish-brown, irrorated with paler brown and greyish scales, a fine silvery-white streak at the end of the cell, the costal, outer, and inner margins narrowly edged with greyish-white; secondaries pale brown, the veins and outer margin darker, the fringe pale brown: head, antennæ, thorax, and abdomen dark brown. Expanse  $1\frac{1}{4}$  inch.

*Hab.* GUATEMALA, near the city (*Rodriguez*<sup>1</sup>).

## PERIGEA (I. p. 276).

**Perigea cupentia** (I. p. 276).

To the localities given, add :—COSTA RICA, Candelaria Mts. (*Underwood*).

**Perigea epopea** (I. p. 277).

To the localities given, add :—MEXICO, Orizaba (*Boucard, in mus. D.*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); GUATEMALA, Guatemala city (*Rodriguez*); COSTA RICA, Santa Clara Valley (*Zürcher*).

**Perigea hippia** (I. p. 277).

To the locality given, add :—MEXICO, Orizaba (*Boucard, in mus. D.*).

The Mexican specimen is a male, the Panama type a female. The sexes are very similar.

**Perigea albolabes** (I. p. 278).

To the localities given, add :—MEXICO, Guadalajara in Jalisco (*Goldsmith, in mus. D.*).

**Perigea sutor** (I. p. 278).

To the localities given, add :—MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, Guatemala city (*Rodriguez*).

**Perigea paupera** (I. p. 279).

To the Mexican locality given, add :—Jalapa (*M. Trujillo*).

14. **Perigea agnonia**. (Tab. XCIII. fig. 27.)

*Perigea agnonia*, Druce, P. Z. S. 1890, p. 513<sup>1</sup>.

Primaries pale fawn-colour, in some specimens shaded with pink and striated with blackish lines, the discal spot very distinct, the fringo pinkish-brown, streaked with fawn-colour; secondaries pale brownish-white, dusky at the apex and along the outer margin: head and thorax brownish-fawn-colour, the underside of the latter pale fawn-colour; the abdomen blackish-brown above, with the base brownish-fawn-colour, pale fawn-colour beneath, the anus yellowish-fawn-colour; the antennæ pale brown. Expanse  $1\frac{1}{4}$  inch.

*Hab.* GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*<sup>1</sup>); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*<sup>1</sup>), Volcan de Chiriqui below 4000 feet (*Champion*<sup>1</sup>). —ECUADOR<sup>1</sup>; BRAZIL<sup>1</sup>.

It is possible that this insect may have been described by Walker, as it appears to be a very common species in the neighbourhood of Rio Janeiro, from which locality I have a large series; but I have been unable to find anything like it in the National collection, or in the Saunders collection now in the Oxford Museum.

15. *Perigea concisa*.

*Laphygma* (?) *concisa*, Walk. Cat. ix. p. 191<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

One specimen from Jalapa, almost identical with the type in the National Collection. Walker's insect was from an unknown locality.

16. *Perigea subornata*.

*Perigea subornata*, Walk. Cat. xxxii. p. 682.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*).

Walker's type was from an unknown locality.

17. *Perigea tersa*, sp. n. (Tab. XCIII. fig. 26, ♂.)

*Male.* Primaries pale brown, with three minute whitish spots at the end of the cell, beyond which, close to the outer margin, the wing is crossed from the costal margin to the anal angle by a darker brown line; secondaries brownish-white, darker at the apex: head, thorax, and abdomen pale brown.—*Female.* Very similar to the male, but considerably larger. Expanse, ♂ 1, ♀  $1\frac{3}{10}$  inch.

*Hab.* GUATEMALA, Volcan de Atitlan 2500 to 3500 feet, Cerro Zunil 4000 feet (*Champion*).

A male from the Volcan de Atitlan is figured.

18. *Perigea adonea*, sp. n. (Tab. XCIV. fig. 4.)

Primaries dark brown, with a minute white spot at the end the cell, two waved dark brown lines crossing the wing from the costal to the inner margin—the first near the base, the second submarginal,—and two short brown lines extending from the end of the cell to the inner margin; secondaries brown, the fringe much paler: head, thorax, abdomen, and legs brown. Expanse 1 inch.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

## MERISTIS (I. p. 279).

*Meristis fea* (I. p. 279).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

## CARADRINA (I. p. 280).

2. *Caradrina alana*. (Tab. XCIV. fig. 1.)

*Caradrina alana*, Druce, P. Z. S. 1890, p. 513<sup>1</sup>.

Primaries pale mouse-colour, crossed from the costal to the inner margin by two pale whitish-brown lines—the first near the base, the second beyond the cell,—the fringe brown; secondaries pale brown, whitish near the base, the fringe pale brown: head, thorax, and abdomen brown above, slightly paler beneath, the antennæ and palpi brown, the legs whitish-brown. Expanse 1 inch.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*<sup>1</sup>).

Two specimens of this dull-coloured insect are contained in Dr. Staudinger's collection.

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3 qq



## AGROTIS (I. p. 281).

**Agrotis ypsilon** (I. p. 281).

To the localities given, add :—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

**Agrotis ignicans** (I. p. 284).

To the localities given add :—MEXICO, Jalapa (*M. Trujillo*).

20. **Agrotis lamptera**. (Tab. XCIV. fig. 2.)

*Agrotis lamptera*, Druce, P. Z. S. 1890, p. 513<sup>1</sup>.

Primaries pale pinkish-fawn-colour, crossed beyond the middle by a faint brown line that extends from the costal margin near the apex to the inner margin above the anal angle, with an indistinct spot in the middle of the cell, two short pale brown lines at the end of the cell, and a submarginal row of very indistinct and very minute brown spots, the fringe pinkish-fawn-colour; secondaries hyaline-pinkish-white, the inner margin broadly edged with black, the fringe white; the underside of the primaries pale pinkish-fawn-colour, that of the secondaries whitish: head, thorax, and tegulae pale fawn-colour; the abdomen blackish-brown, excepting at the anus, where it is clothed with yellowish hairs; the antennae, palpi, and legs dark fawn-colour. Expanse  $1\frac{3}{4}$  inch.

*Hab.* BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); GUATEMALA, Pantaleon, 1700 feet (*Champion*<sup>1</sup>).

21. **Agrotis (?) limenia**. (Tab. XCIV. fig. 3.)

*Agrotis (?) limenia*, Druce, P. Z. S. 1890, p. 514<sup>1</sup>.

Primaries reddish-brown, in some specimens pale fawn-colour, crossed beyond the middle from the costal to the inner margin by two faint waved lines, with a minute black dot in the middle of the cell, a large oval grey spot edged with dark brown at the end of the cell, and a C-shaped black spot close to the base; secondaries blackish-brown, darker at the apex and round the outer margin, the fringe pale greyish-brown: head, thorax, and tegulae reddish-brown; the abdomen black above, reddish-brown at the sides and beneath, the anus brown; the legs brown. Expanse  $2\frac{1}{2}$  inches.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, Guatemala city (*Rodriguez*<sup>1</sup>).

This insect varies greatly in colour—from pale fawn-colour to dark reddish-brown. It is not closely allied to any species of *Agrotis* known to me.

22. **Agrotis daunus**. (Tab. XCIV. fig. 5.)

*Agrotis daunus*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 360 (1894)<sup>1</sup>.

Primaries greenish-stone-colour, with three small black dots on the costal margin and a larger one close to the apex, a narrow dark brown line, edged with black on the inner side, crossing the wing beyond the middle from the costal to the inner margin just above the anal angle, and a second narrow brown line nearer the base, the wing clouded with dark brown on the inner margin, a marginal row of small black dots extending from the apex to the anal angle, the fringe alternately black and stone-colour; secondaries pearly-white, the marginal line black, the inner margin and the fringe stone-colour: head and collar brown, the thorax stone-colour; the abdomen brown, the anus pale brown. Expanse  $2\frac{1}{4}$  inches.

*Hab.* MEXICO, Orizaba (*mus. D.*<sup>1</sup>); PANAMA, Chiriqui (*mus. Staudinger*).

Very distinct, but allied to *A. semidolens*, Walk.

23. *Agrotis fornax*, sp. n. (Tab. XCIV. fig. 7.)

Primaries fawn-colour, crossed about the middle from the costal to the inner margin by a dark brown band, which is widened towards the costal margin, and with a waved brown line on the outer margin extending from the costal margin near the apex to the anal angle, the wing also crossed near the base by several faint narrow brown lines, a round spot in the middle of the cell and a large oval spot at the end of the cell reddish-brown, the fringe brown; secondaries uniformly dark brown: head, antennæ, thorax, and legs brown (abdomen wanting). Expanse 2 inches.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

One worn specimen.

NOCTUA (to follow the genus *Agrotis*, I. p. 286).

*Noctua* (Linnaeus), Treitschke, Schmctt. Europ. v. 1, p. 206 (1825) (part.).

The Mexican insects referred by Mr. Schaus to this and the following two genera have not been seen by me.

1. *Noctua totonaca*.

*Noctua totonaca*, Schaus, Trans. Am. Ent. Soc. xxi. p. 226 (1894) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus* <sup>1</sup>).

CARNEADES \* (to follow the genus *Noctua*).

*Carneades*, Grote, Canad. Ent. xv. p. 4 (1883); Papilio, iii. p. 30.

1. *Carneades mizteca*.

*Carneades mizteca*, Schaus, Trans. Am. Ent. Soc. xxi. p. 226 (1894) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus* <sup>1</sup>).

This species is stated to be very closely allied to *Agrotis stentzi*, Led.

ACANTHODICA (to precede the genus *Tiracola*, I. p. 286).

*Acanthodica*, Schaus, Trans. Am. Ent. Soc. xxi. p. 241 (1894).

Mr. Schaus includes under this genus two new species, *A. grandis*, from Mexico, and *A. xylinoïdes*, from Ecuador, and he states that *Agrotis splendens*, Druce, and *Xylina drucei*, Dognin, also belong to it.

1. *Acanthodica grandis*.

*Acanthodica grandis*, Schaus, Trans. Am. Ent. Soc. xxi. p. 241 (1894) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus* <sup>1</sup>).

\* The name *Carneades* has long been preoccupied in Coleoptera (Bates, 1869).

ANTACHARA (to follow the genus *Tiracola*, I. p. 287).

*Antachara*, Walker, Cat. xv. p. 1740 (1858); Butler, Trans. Ent. Soc. Lond. 1890, p. 656.

1. *Antachara* (?) *superba*. (Tab. XCIV. fig. 6.)

*Antachara* (?) *superba*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 361 (1894)<sup>1</sup>.

*Male*. Primaries pale pea-green, with three small V-shaped dark brown spots on the costal margin, the one near the middle larger than the others, a wide reddish-brown marking extending from the middle of the cell to the outer margin and apex, and a silvery-white line partly crossing the wing about the middle, the fringe reddish-brown; secondaries pearly-white, the marginal line and fringe pale brown, the inner margin clothed with fawn-coloured hairs: head, collar, and tegulae pale pea-green; thorax, abdomen, and legs fawn-colour; antennae and palpi dark brown.—*Female*. Very similar to the male, but not quite so distinctly marked. Expanse, ♂  $2\frac{1}{10}$ , ♀  $2\frac{4}{10}$  inches.

*Hab*. COSTA RICA, Santa Clara Valley 1200 feet (*Zürcher*<sup>1</sup>).—ECUADOR, Sarayacu<sup>1</sup>.

Two males from Ecuador and a female from Costa Rica are all I have seen of this very distinct species.

## LYCOPHOTIA (I. p. 287).

*Lycophotia* (?) *grandimacula* (I. p. 287).

To the localities given, add:—COSTA RICA, La Uruca, San José (*coll. Dognin*).

STIRIA (to follow the genus *Lycophotia*, I. p. 287).

*Stiria*, Grote, Bull. Buff. Soc. Nat. Sci. ii. p. 73 (1874).

1. *Stiria rugifrons*. (Tab. XCIV. fig. 9.)

*Stiria rugifrons*, Grote, Bull. Buff. Soc. Nat. Sci. ii. p. 73<sup>1</sup>; Canad. Ent. xiv. p. 76<sup>2</sup>, and xv. p. 74<sup>3</sup>.

*Hab*. NORTH AMERICA, Kansas and Colorado<sup>1 2 3</sup>.—MEXICO, Durango city (*Becker*).

The Mexican specimen agrees with one from Colorado in my own collection.

## TÆNIOCAMPA (I. p. 288).

3. *Tæniocampa vellerea*. (Tab. XCIV. fig. 8, ♀.)

*Tæniocampa vellerea*, Schaus, Trans. Am. Ent. Soc. xxi. p. 237 (1894)<sup>1</sup>.

*Hab*. MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>; *M. Trujillo*); GUATEMALA, Las Mercedes (*Champion*); PANAMA, Volcan de Chiriqui (*Champion*).

We figure a female from Chiriqui.

4. *Tæniocampa mulina*.

*Tæniocampa mulina*, Schaus, Trans. Am. Ent. Soc. xxi. p. 237 (1894)<sup>1</sup>.

*Hab*. MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).

5. *Tæniocampa contempta*.

*Tæniocampa contempta*, Schaus, Trans. Am. Ent. Soc. xxi. p. 237 (1894)<sup>1</sup>.

*Hab*. MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).



## ORTHODES (I. p. 288).

4. *Orthodes albipuncta*.

*Orthodes albipuncta*, Schaus, Trans. Am. Ent. Soc. xxi. p. 237 (1894)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).

5. *Orthodes iole*.

*Orthodes iole*, Schaus, Trans. Am. Ent. Soc. xxi. p. 237 (1894)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).

AMATHES (to follow the genus *Orthodes*, I. p. 289).

*Amathes*, Hübner, Verz. bek. Schmett. p. 222 (1816).

1. *Amathes temperata*. (Tab. XCIV. fig. 10.)

*Amathes temperata*, Schaus, Trans. Am. Ent. Soc. xxi. p. 226 (1894)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>; *M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*).

We figure a Costa Rican specimen.

XANTHIA (to follow the genus *Mesogona*, I. p. 290).

*Xanthia*, Guenée, Ann. Soc. Ent. Fr. viii. p. 490 (1839); Sp. gén. des Léop. v. p. 389; Walker, Cat. x. p. 457.

1. *Xanthia alala*. (Tab. XCIV. fig. 11.)

*Xanthia alala*, Druce, P. Z. S. 1890, p. 514<sup>1</sup>.

*Male*. Primaries orange-brown, shaded with pale yellow, with a round spot in the cell and a large oval spot at the end of it pale yellowish-brown, a submarginal row of small spots extending from the apex to the anal angle, the outer margin and fringe brownish; secondaries brownish-white, darker round the outer margin: head and thorax yellowish-brown, the abdomen much paler; the antennæ and legs pale brown.—*Female*. Similar to the male, but darker. Expanse 1½ inch.

*Hab.* MEXICO, Mexico city (*Höge*<sup>1</sup>); COSTA RICA, La Uruca, San José (*coll. Dognin*).

2. *Xanthia alcandra*. (Tab. XCIV. fig. 12.)

*Xanthia alcandra*, Druce, P. Z. S. 1890, p. 515<sup>1</sup>.

*Male*. Primaries pale citron-yellow, shaded with dark brown at the base and along the costal margin to beyond the middle, with two waved lines crossing the wing from the costal to the inner margin—the first near the base, the second beyond the end of the cell,—and a large round pale brown spot about the middle of the cell and an oval similarly coloured spot at the end of it; secondaries creamy-white; the underside of both wings pale yellow: head, thorax, antennæ, and legs brownish-yellow, the abdomen yellowish-white. Expanse 1½ inch.

*Hab.* MEXICO, Tierra Colorada in Guerrero 2000 feet (*H. H. Smith*<sup>1</sup>).

One specimen.

### 3. *Xanthia patula*, sp. n. (Tab. XCIV. fig. 14.)

Primaries golden-yellow, crossed from the costal to the inner margin by three fine brown lines—the first angular, near the base, the second at the end of the cell, the third waved, beyond the cell,—and with a small black spot in the middle of the cell and two white spots at the end of it, the upper one smaller than the lower one, the outer margin rather dusky, the fringe brown; secondaries yellowish-brown, duller than the primaries: head and thorax golden-yellow, the antennæ and abdomen yellowish-brown. Expanse  $1\frac{3}{10}$  inch.

*Hab.* COSTA RICA, Santa Clara Valley 1200 feet (*Zürcher*).

One specimen.

### COSMIA (to follow the genus *Atethmia*, I. p. 290).

*Cosmia*, Ochseneimer, Schmett. Europ. iv. p. 84 (1816); Treitschke, Schmett. Europ. v. 2, p. 379 (1825); Walker, Cat. x. p. 486.

#### 1. *Cosmia laoripa*. (Tab. XCIV. fig. 13.)

*Cosmia laoripa*, Druce, P. Z. S. 1890, p. 514<sup>1</sup>.

Primaries dark brown, crossed by two pale brown bands—the first near the base, the second beyond the middle,—and with a marginal row of minute white dots; secondaries brown, paler at the base: head, thorax, and abdomen dark brown above, paler beneath, the antennæ, palpi, and legs brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*<sup>1</sup>).

One specimen.

### HECATERA (I. p. 291).

#### *Hecatera hodeva* (I. p. 291).

To the locality given, add:—MEXICO, Orizaba (*Boucard, in mus. D.*).

The specimen received from Orizaba is a female; it has the secondaries dusky brown, instead of white, as in the type, which proves to be a male.

#### 4. *Hecatera parens*.

*Hecatera parens*, Schaus, Trans. Am. Ent. Soc. xxi. p. 228 (1894)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).

### POLIA (to follow the genus *Hecatera*, I. p. 291).

*Polia*, Ochseneimer, Schmett. Europ. iv. p. 73 (1816); Treitschke, Schmett. Europ. v. 2, p. 5 (1825); Guenée, Sp. gén. des Lép. vi. p. 33; Walker, Cat. xi. p. 513.

#### 1. *Polia* (?) *lorina*. (Tab. XCIV. fig. 15.)

*Polia* (?) *lorina*, Druce, P. Z. S. 1890, p. 515<sup>1</sup>.

Primaries pale grey, crossed by indistinct rather darker lines, with a black line crossing the wing near the base from the costal to the inner margin, beyond which, close to the anal angle, is a second waved black line, this latter not reaching the costal margin; secondaries pure white; the underside of both wings

white, that of the primaries shaded with grey at the apex: head, thorax, and tegulæ pale grey, the abdomen and legs white, the antennæ brown. Expanse  $2\frac{1}{4}$  inches.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer* <sup>1</sup>).

One specimen.

2. **Polia (?) ameria.** (Tab. XCIV. fig. 17.)

*Polia (?) ameria*, Druce, P. Z. S. 1890, p. 515 <sup>1</sup>.

Primaries dark grey, crossed from the costal to the inner margin by many darker grey and black waved lines; secondaries white, dusky round the outer margin; the marginal line of both wings black, the fringe dark grey: head and collar dark grey, the tegulæ and thorax pale grey; the abdomen pale brownish-grey, the anus tinted with yellowish-brown; the antennæ and legs pale brown. Expanse  $2\frac{1}{4}$  inches.

*Hab.* GUATEMALA, Volcan de Atitlan 2500 feet (*Champion* <sup>1</sup>).

One specimen only of this fine species was obtained. It is allied to *P. lorina*, Druce, from Mexico.

VALERIA (I. p. 292).

**Valeria beryllus** (I. p. 292).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*).

**Valeria uscana** (I. p. 292).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*).

4. **Valeria jocosa.**

*Valleria jocosa*, Schaus, Trans. Am. Ent. Soc. xxi. p. 230 (1894) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus* <sup>1</sup>).

HADENA (I. p. 293).

**Hadena (?) impedita** (I. p. 294).

To the localities given, add:—MEXICO, Guadalajara in Jalisco (*Goldsmith, in mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood*).

**Hadena latifascia** (I. p. 294).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

**Hadena aperiens** (I. p. 294).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*).

9. **Hadena tepeca.**

*Hadena tepeca*, Schaus, Trans. Am. Ent. Soc. xxi. p. 228 (1894) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus* <sup>1</sup>).



**10. *Hadena viga*s.**

*Hadena viga*s, Schaus, Trans. Am. Ent. Soc. xxi. p. 229 (1894)<sup>1</sup>.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*<sup>1</sup>).

**11. *Hadena pusilla*.**

*Hadena pusilla*, Schaus, Trans. Am. Ent. Soc. xxi. p. 229 (1894)<sup>1</sup>.

*Hab.* MEXICO, Coatepec (*coll. Schaus*<sup>1</sup>).—PERU<sup>1</sup>.

**CALYMNIA (I. p. 295).****3. *Calymnia picturata*.**

*Calymnia picturata*, Schaus, Trans. Am. Ent. Soc. xxi. p. 238 (1894)<sup>1</sup>.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*<sup>1</sup>).

**ALIBAMA (I. p. 295).*****Alibama mutata* (I. p. 295).**

To the localities given, add :—MEXICO, Jalapa (*M. Trujillo*).

**MAGUSA (I. p. 297).*****Magusa strigifera* (I. p. 297).**

To the localities given, add :—MEXICO, Durango city (*Becker*) ; GUATEMALA, Guatemala city (*Rodriguez*) ; COSTA RICA, Candelaria Mts. (*Underwood*).

**CUCULLIA (I. p. 297).*****Cucullia phocylides* (I. p. 298).**

To the locality given, add :—COSTA RICA, Candelaria Mts. (*Underwood*).

**CHLORIDEA (I. p. 298).****2. *Chloridea viga*sia.**

*Chloridea viga*sia, Schaus, Trans. Am. Ent. Soc. xxi. p. 239 (1894)<sup>1</sup>.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*<sup>1</sup>).

**3. *Chloridea niveilinea*.**

*Chloridea niveilinea*, Schaus, Trans. Am. Ent. Soc. xxi. p. 239 (1894)<sup>1</sup>.

*Hab.* MEXICO, Las Vigas (*coll. Schaus*<sup>1</sup>).

**HELIOTHIS (I. p. 299).*****Heliothis armiger* (I. p. 299).**

To the localities given, add :—COSTA RICA, Candelaria Mts. (*Underwood*).

## ANTHÆCIA (I. p. 300).

4. *Anthæcia jaguarina*.

*Anthæcia jaguarina*, Guen. Sp. gén. des Lép. vi. p. 184, Noctuérites, t. 9. fig. 11<sup>1</sup>; Walk. Cat. xi. p. 694<sup>2</sup>.

*Hab.* NORTH AMERICA<sup>1 2</sup>.—MEXICO, Guadalajara in Jalisco (*Goldsmith, in mus. D.*).

We have received one specimen of this species from Mexico. Guenée's figure is a very poor one.

CIRRHOPHANUS (to follow the genus *Anthæcia*, I. p. 301).

*Cirrhophanus*, Grote, Canad. Ent. iv. p. 187 (1872); xv. p. 76 (1883).

1. *Cirrhophanus triangulifer*. (Tab. XCIV. fig. 16.)

*Cirrhophanus triangulifer*, Grote, Canad. Ent. iv. p. 187<sup>1</sup>; xiv. p. 183<sup>2</sup>; xv. p. 76 (1883)<sup>3</sup>; Proc. Acad. Phil. 1875, p. 421, fig.<sup>4</sup>; J. B. Smith, Cat. Noct. Bor.-Am. (Bull. U.S. Nat. Mus. no. 44) p. 261 (1893)<sup>5</sup>.

*Chariclea triangulifera*, Grote, Illustr. Essay Noct. N. Am. p. 60, t. 3. fig. 26<sup>6</sup>; New Check-List N. Am. Moths, p. 36 (1882)<sup>7</sup>.

*Chariclea pretiosa*, Morrison, Proc. Bost. Soc. Nat. Hist. xviii. p. 122 (1875)<sup>8</sup>.

*Hab.* NORTH AMERICA<sup>1 2 7</sup>, Kansas<sup>4 8</sup>, Middle and Central States to Kansas<sup>5</sup>, Ohio<sup>3 6</sup>, Missouri<sup>3 6</sup>.—MEXICO, Durango city (*Becker*).

We have received one specimen of this species from Durango.

GROTELLA (to precede the genus *Adisura*, I. p. 301).

*Grotella*, Harvey, Bull. Buff. Soc. Nat. Sci. ii. p. 278 (1875).

1. *Grotella salacon*. (Tab. XCIV. fig. 18.)

*Grotella salacon*, Druce, Ann. & Mag. Nat. Hist. (6) xvi. p. 39 (1895)<sup>1</sup>.

*Male*. Primaries glossy chrome-yellow; secondaries pale primrose-yellow, with the apex, outer margin, and fringe chrome-yellow; the underside of both wings pale glossy yellow: head, thorax, and tegulæ deep chrome-yellow; the abdomen pale yellow, the anus dark chrome-yellow; the antennæ black.—*Female*. Very similar to the male. Expanse 1 inch.

*Hab.* MEXICO, Tierra Colorada in Guerrero 2000 feet (*H. H. Smith*<sup>1</sup>).

2. *Grotella pyronæa*. (Tab. XCIV. fig. 19.)

*Grotella pyronæa*, Druce, Ann. & Mag. Nat. Hist. (6) xvi. p. 38 (1895)<sup>1</sup>.

Primaries chalk-white, crossed beyond the middle from the costal to the inner margin by a very faint broken black line, which in some specimens is entirely wanting, the fringe white; secondaries smoky-brown, darker on the costal margin and at the apex, the fringe white; the underside of both wings smoky-brown: head and thorax white, the abdomen brownish-white, the palpi and legs blackish-brown, the antennæ black. Expanse 1½ inch.

*Hab.* MEXICO, Amula in Guerrero (*H. H. Smith*<sup>1</sup>).

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### 3. *Grotella samula*. (Tab. XCIV. fig. 20.)

*Grotella samula*, Druce, Ann. & Mag. Nat. Hist. (6) xvi. p. 39 (1895) <sup>1</sup>.

Primaries and secondaries citron-yellow, the primaries slightly the darkest, and with the inner margin and a spot at the end of the cell very pale brown; the underside as above, but without the brown markings: head, antennæ, and thorax yellowish (abdomen wanting). Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Tonalapa in Guerrero (*H. H. Smith* <sup>1</sup>).

One specimen.

## ADISURA (I. p. 301).

### 2. *Adisura grandis*. (Tab. XCIV. fig. 21.)

*Adisura grandis*, Druce, P. Z. S. 1890, p. 516 <sup>1</sup>.

Primaries bright rose-pink, with a narrow cream-coloured line extending down the middle of the wing from the base to the outer margin, the fringe cream-colour; secondaries pure silky-white, with the fringe white; the underside silky-white, that of the primaries dusky from the base to beyond the middle: head and thorax pink, the base of the latter and the abdomen white, the legs pinkish-white, the antennæ pale pinkish-brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Lake Chapala in Jalisco (*Richardson* <sup>1</sup>).

One worn specimen.

## ANARTA (to follow the genus *Adisura*, I. p. 301).

*Anarta*, Hübner. Verz. bek. Schmett. p. 220 (1816); Walker, Cat. xi. p. 696.

### 1. *Anarta agonax*. (Tab. XCIV. fig. 22.)

*Anarta agonax*, Druce, P. Z. S. 1890, p. 515 <sup>1</sup>.

Primaries very dark brown, almost black, with a large square white spot at the end of the cell, beyond which the wing is crossed from the costal to the inner margin by a pale yellowish-brown band, this latter being somewhat dentated on the outer side, the fringe pale yellowish-brown, except in the middle, where it is black; secondaries black, broadly white from the base to about the middle of the inner margin, the fringe white; the underside of both wings black, with the white spots as above: head, thorax, antennæ, and legs black. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Jalapa (*Höge* <sup>1</sup>).

## PANEMERIA (to follow the genus *Anarta*).

*Panemeria*, Hübner, Verz. bek. Schmett. p. 262 (1816); Walker, Cat. xi. p. 705.

### 1. *Panemeria rhea*. (Tab. XCIV. fig. 23.)

*Panemeria rhea*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 360 (1894) <sup>1</sup>.

Primaries dark brown, with a narrow submarginal grey line extending from the apex to the anal angle, the fringe dark brown; secondaries black, crossed about the middle from the costal margin almost to the inner margin by a wide orange-yellow band, the fringe yellowish-brown: head, thorax, and abdomen black. Expanse 1 inch.

*Hab.* MEXICO, Durango city (*Becker* <sup>1</sup>).



## AGROPHILA (I. p. 301).

8. *Agrophila anæa*, sp. n. (Tab. XCIV. fig. 24.)

Primaries with the basal half fawn-colour, the outer half very dark purplish-brown, marked with some very faint lines near the apex and along the outer margin, the fringe very dark brown; secondaries dark chrome-yellow, the costal margin edged with black, the fringe yellowish-brown: head, tegulae, and thorax fawn-colour, the abdomen chrome-yellow, the antennae brown, the legs greyish-brown. Expanse  $\frac{1}{2}$  inch.

*Hab.* MEXICO, Atoyac in Vera Cruz (*H. H. Smith*), Temax in Northern Yucatan (*Gaumer*); GUATEMALA, San Gerónimo (*Champion*).

A specimen from Atoyac is figured.

9. *Agrophila luda*, sp. n. (Tab. XCIV. fig. 25.)

Primaries with the base and part of the costal margin grey, the outer half of the wing blackish-brown; secondaries dark brown; the fringe of both wings dark brown: head, thorax, and abdomen black, the legs greyish-black. Expanse  $\frac{1}{2}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

One worn specimen.

10. *Agrophila orcidia*, sp. n. (Tab. XCIV. fig. 26.)

Primaries brownish-fawn-colour, dark brown at the base and along the outer margin, the fringe also dark brown; secondaries chrome-yellow, shaded with brown, the costal margin narrowly edged with black, the fringe black: head, antennae, thorax, and abdomen blackish-brown. Expanse  $\frac{1}{2}$  inch.

*Hab.* MEXICO, Omilteme in Guerrero, Teapa in Tabasco (*H. H. Smith*).

This species varies considerably in size. We figure a specimen from Teapa.

11. *Agrophila mata*, sp. n. (Tab. XCIV. fig. 27.)

Primaries greenish-brown, thickly irrorated with yellow scales, with three yellowish-white marks on the costal margin and a fine yellow streak on the inner margin near the anal angle, the marginal line yellowish-white, the fringe dark brown; secondaries brown, paler at the base: head, thorax, and abdomen greenish-brown. Expanse  $\frac{1}{10}$  inch.

*Hab.* MEXICO, Amula in Guerrero, Cuernavaca in Morelos (*H. H. Smith*).

Two specimens. The one from Amula is figured.

## METOPONIA (I. p. 303).

4. *Metoponia umbria*, sp. n. (Tab. XCIV. fig. 28.)

Primaries dark brown, paler along the outer margin, and crossed about the middle from the costal to the inner margin by two very indistinct darker brown bands, the fringe brown; secondaries brown, paler at the base, the fringe yellowish-brown: head, antennae, thorax, and abdomen dark brown. Expanse 1 inch.

*Hab.* MEXICO, Cuernavaca in Morelos (*H. H. Smith*); PANAMA, Volcan de Chiriqui (*Champion*).

Two specimens. The one from the Volcan de Chiriqui is figured.

## EUGRAPHIA (I. p. 304).

**Eugraphia effusa** (I. p. 304).

To the locality given, add:—COSTA RICA, Santa Clara Valley 1200 feet (*Zürcher*).

## ACONTIA (I. p. 305).

**Acontia(?) damia** (I. p. 308).

*Epidelia viridalis*, Rag. Ann. Soc. Ent. Fr. 1891, p. 101, t. 16. figg. 8, 8a (♀) <sup>1</sup>.

To the locality given, add:—PANAMA, Chiriqui <sup>1</sup>.

Ragonot refers this species to the Pyralidæ. My description was published in October 1889.

16. **Acontia jalapensis.**

*Acontia jalapensis*, Schaus, Trans. Am. Ent. Soc. xxi. p. 239 (1894) <sup>1</sup>.

*Hab.* MEXICO, Rinconada (*coll. Schaus* <sup>1</sup>).

17. **Acontia dela.** (Tab. XCIV. fig. 29.)

*Acontia dela*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 361 (1894) <sup>1</sup>.

Primaries bright orange-yellow, crossed from the costal to the inner margin by five narrow zigzag black lines, and with a pale yellow spot edged with black in the cell, the fringe alternately black and yellow; secondaries black, the fringe yellow and black; the underside of both wings blackish-brown: head and thorax dark yellow, the abdomen, antennæ, and legs blackish-brown. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, near Durango city (*Becker* <sup>1</sup>).

One specimen.

18. **Acontia splendens.** (Tab. XCV. fig. 2.)

*Acontia splendens*, Druce, P. Z. S. 1890, p. 516 <sup>1</sup>.

Primaries pea-green, crossed from the costal to the inner margin by three pure white waved narrow bands—the first close to the base, the second beyond the cell, the third submarginal,—and with six dark brown spots along the costal margin, the three nearest the apex very minute, a dark brown streak extending from the end of the cell to the costal margin, and a small bright pink spot edged with white at the end of the cell, below which are a number of minute dark brown spots, the outer margin broadly bordered with bright pink, with a marginal row of minute black dots, the fringe greenish-fawn-colour; secondaries pale brown, paler at the base, crossed below the middle by a waved dark brown line, the outer margin and the anal angle shaded with pink; the underside brownish-white, with very indistinct brown markings: head and thorax pale greenish-white, the abdomen pinkish-brown, the antennæ dark brown, the legs pale brownish-white. Expanse  $1\frac{1}{4}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui (*Trötsch, in mus. Staudinger* <sup>1</sup>).

One specimen only of this beautiful little insect has been seen; it has the head, thorax, and abdomen so much crushed that I am not certain that my description of the colours is quite correct.



19. **Acontia chea**, sp. n. (Tab. XCV. figg. 3, ♂; 4, ♀.)

*Male*. Primaries white, with two brown marks on the costal margin near the base—the larger one reaching nearly halfway across the wing, the second quite small,—and a broad brown band extending from the apex to the inner margin close to the anal angle, the latter marked with some very fine white zigzag lines, the outer margin and the fringe white; secondaries white, slightly dusky at the apex and along part of the outer margin, the fringe white: head, thorax, and abdomen white, the antennæ and legs brown.—*Female*. Considerably larger than the male; the primaries with the dark markings much broader and redder in colour, the marginal line white, slightly irrorated with blue scales on the inner side, the fringe brown; secondaries dark reddish-brown: the collar, thorax, and tegulæ white, the antennæ, legs, and abdomen brown. Expanse, ♂ 1 inch, ♀ 1½ inch.

*Hab.* MEXICO, Durango city (*Becker*).

20. **Acontia darpa**, sp. n. (Tab. XCV. fig. 5.)

Primaries brown, darker from the base to the middle, the costal margin pale brownish-white from the base almost to the apex, a greyish mark at the end of the cell, beyond which are two very narrow black lines, the marginal line and a small spot close to the apex both black, the fringe dark brown; secondaries dusky brown, paler at the base, the fringe brown: head, antennæ, thorax, abdomen, and legs brown. Expanse 1 inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

This species is allied to *A. costalis*, Walk.; the sexes are very similar.

## DACIRA (I. p. 309).

2. **Dacira roma**. (Tab. XCV. fig. 6, ♂.)

*Dacira roma*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 361 (1894)<sup>1</sup>.

*Male*. Primaries white, with the base broadly black, a dentated black band crossing from the costal margin to the anal angle, the outer margin greyish; secondaries hyaline white: head white, the thorax reddish-brown, the abdomen greyish-brown, white at the base, the antennæ black. Expanse 1 inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*<sup>1</sup>); GUATEMALA, in the city (*Rodríguez*<sup>1</sup>).

The sexes are similar, except that the secondaries of the female are clouded with blackish-brown round the outer margin.

## DROBETA (I. p. 310).

5. **Drobeta lea**, sp. n. (Tab. XCV. fig. 7, ♂.)

*Male*. Primaries pale brownish-fawn-colour, crossed about the middle from the costal to the inner margin by a dark brown line edged on the outer side by a paler line, with a second brown line partly crossing the wing from the anal angle to near the apex, a round brown dot at the end of the cell, and a submarginal row of brown spots extending from the apex to the anal angle; secondaries dark yellowish-cream-colour, the marginal line brown: head, collar, and tegulæ yellowish-fawn-colour, the thorax and abdomen pale brown, the antennæ and legs brown. Expanse 1¼ inch.

*Hab.* GUATEMALA, Cahabon in Vera Paz (*Champion*).

One specimen.

6. **Drobeta cilix**, sp. n. (Tab. XCV. fig. 8, ♂.)

*Male*. Primaries and secondaries reddish-brown; the primaries crossed from the costal to the inner margin by two narrow lines—the first nearest the base, almost straight, the second beyond the cell, curved,—and



with several dark brown markings near the apex and along the outer margin; the fringe of the primaries dark brown, that of the secondaries yellowish-brown: head, antennæ, thorax, abdomen, and legs dark reddish-brown. Expanse 1 inch.

*Hab.* PANAMA, Bugaba (*Champion*).

One specimen.

**7. *Drobeta debora*, sp. n.** (Tab. XCV. fig. 9, ♂.)

*Male.* Primaries pale pinkish-fawn-colour, crossed about the middle from the costal to the inner margin by a dark brown line, with an indistinct black elongated spot at the end of the cell; secondaries creamy-white, slightly dusky at the apex: head, antennæ, and thorax fawn-colour, the abdomen brownish-white. Expanse 1 inch.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*).

Two males.

**8. *Drobeta* (?) *yeba*, sp. n.** (Tab. XCV. fig. 10, ♂.)

*Male.* Primaries shaded with dark and light brown, and crossed from the costal to the inner margin by two indistinct brown lines, a black dot at the end of the cell; secondaries semihyaline dusky brown, darker at the apex and along the outer margin, the fringe dark brown: head, collar, and tegulæ yellowish-brown, the thorax and abdomen darker brown, the antennæ and legs brown. Expanse  $1\frac{1}{10}$  inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); PANAMA, Volcan de Chiriqui (*Champion*).

We figure the specimen from the Volcan de Chiriqui.

**9. *Drobeta attina*, sp. n.** (Tab. XCV. fig. 11, ♀.)

*Female.* Primaries pale greyish-brown, thickly irrorated with white scales, a wide dark brown curved band crossing the wing from the costal margin to the middle of the outer margin; secondaries brown, edged with small black spots: head and thorax greyish-brown, the antennæ and abdomen pale brown. Expanse  $1\frac{4}{10}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

One specimen.

**10. *Drobeta leada*, sp. n.** (Tab. XCV. fig. 12, ♂.)

*Male.* Primaries greyish-brown from the base to beyond the middle, the apex greyish-brown, the other portion of the wing reddish-brown, the marginal line pale yellowish-brown, the fringe reddish-brown; secondaries reddish-brown, paler at the base, with a darker brown streak at the end of the cell: head, collar, tegulæ, and thorax greyish-brown, the antennæ and abdomen reddish-brown. Expanse  $1\frac{1}{4}$  inch.

*Hab.* GUATEMALA, Volcan de Atitlan 2500 feet (*Champion*).

One specimen.

PSEUDINA (I. p. 311).

**2. *Pseudina chuza*, sp. n.** (Tab. XCV. fig. 13, ♀.)

*Female.* Primaries dark greyish-brown, with a submarginal darker brown band crossing the wing from the apex to the inner margin, two spots near the end of the cell and some markings on the costal margin near the base darker brown, the fringe dark brown; secondaries pale brown, paler at the base: head, collar,

tegulae, and thorax greyish-brown, the abdomen darker brown, the antennae and legs brown. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Cuernavaca in Morelos (*H. H. Smith*).

One specimen.

#### EUSTROTIA (I. p. 311).

##### 13. *Eustrotia decorata*, sp. n. (Tab. XCV. fig. 14, ♂.)

*Male.* Primaries pale primrose-yellow, crossed from the costal to the inner margin by two pale brown bands—the first close to the base, the second beyond the middle,—and with a pale brown spot on the costal margin between them, the apex brown, the fringe greyish; secondaries brownish-white: head, collar, and tegulae pale primrose-yellow, the thorax and abdomen pale brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Northern Sonora (*Morrison*).

One specimen.

##### 14. *Eustrotia devara*, sp. n. (Tab. XCV. fig. 15.)

Primaries reddish-brown, crossed from the costal to the inner margin by several very indistinct darker waved brown lines, and with a square-shaped black spot at the end of the cell, a minute black dot beyond it, and two yellowish-white streaks on the costal margin—the first just above the end of the cell, the second at the apex,—the fringe dark brown; secondaries pale dusky brown, the fringe pale brown: head, thorax, abdomen, and legs brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* GUATEMALA, Pantaleon 1700 feet (*Champion*); PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

Two specimens. The one from the Volcan de Chiriqui is figured.

##### 15. *Eustrotia bettina*, sp. n. (Tab. XCV. fig. 16, ♀.)

*Female.* Primaries and secondaries dark brown; the primaries crossed about the middle from the costal to the inner margin by a darker brown band, and with a blackish-brown spot near the apex: head, antennae, thorax, abdomen, and legs dark brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

One specimen.

##### 16. *Eustrotia besidia*, sp. n. (Tab. XCV. fig. 17.)

Primaries and secondaries dark brown; the primaries crossed from the costal to the inner margin by two darker brown waved lines—the first near the base, the second beyond the middle,—and with a black spot at the end of the cell and another at the apex; the fringe brown: head, antennae, thorax, abdomen, and legs dark brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

One specimen, probably a female.

##### 17. *Eustrotia cincta*, sp. n. (Tab. XCV. fig. 20, ♂.)

*Male.* Primaries black, with several very minute yellowish spots along the outer margin; secondaries blackish-brown, paler at the base, and with a small black spot at the end of the cell; the fringe black: head, antennae, thorax, and abdomen black, the underside of the latter and the legs pale brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* GUATEMALA, Senahu in Vera Paz (*Champion*).

One specimen.



## THALPOCHARES (I. p. 314).

7. *Thalpochares lagore*. (Tab. XCV. fig. 18.)

*Thalpochares lagore*, Druce, P. Z. S. 1890, p. 517<sup>1</sup>.

Primaries dark brown from the base to the middle, and pale purplish-brown thence to the apex, with a narrow yellow line crossing the wing about the middle from the costal to the inner margin, a black dot at the apex, edged with yellow on the upperside, and three minute yellow streaks on the costal margin near the apex, the marginal line yellow, with very minute black dots on the outer edge, the fringe brown; secondaries uniformly dark brown: head and front of the thorax yellowish-brown, the rest of the thorax, the abdomen, antennæ, and legs dark brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*<sup>1</sup>); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*<sup>1</sup>).

A small dull-coloured species, allied to *T. hippotes*, Druce.

8. *Thalpochares laronia*. (Tab. XCV. fig. 19.)

*Thalpochares laronia*, Druce, P. Z. S. 1890, p. 516<sup>1</sup>.

Primaries very pale fawn-colour, crossed by three silvery-white bands, the second band broken into two, forming an oval spot at the end of the cell, the outer margin banded with silvery-white, the space between the first and third bands shaded with bright pink, the fringe white; secondaries white, clouded with very pale fawn-colour: head, thorax, and abdomen pale fawn-colour, the base of the latter whitish, the antennæ and legs pale brown. Expanse 1 inch.

*Hab.* MEXICO, Tierra Colorada in Guerrero 2000 feet (*H. H. Smith*<sup>1</sup>).

One specimen, captured by Mr. Smith in October 1888; it seems to be allied to the European *T. rosea*.

9. *Thalpochares darena*, sp. n. (Tab. XCV. fig. 21, ♂.)

*Male.* Primaries very pale brown, crossed about the middle from the costal to the inner margin by a wide dark brown band, which is edged on each side with a whitish line, and with a small dark brown spot near the apex and a very indistinct waved submarginal line extending from the apex to the anal angle, the fringe pale brown; secondaries cream-colour, clouded with pale brown at the apex and round the outer margin, the fringe white: head, antennæ, thorax, collar, and tegulæ pale brown, the abdomen and legs brownish-white. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Presidio in Mazatlan (*Forrer*).

Several specimens.

10. *Thalpochares* — ?

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

Several specimens, all in very bad condition.

11. *Thalpochares laverna*, sp. n. (Tab. XCV. fig. 22, ♂.)

*Male.* Primaries dark brown, crossed from the costal to the inner margin, near the base and beyond the middle, by two very fine, indistinct, lead-coloured lines, and with a large black spot on the costal margin close to the apex, the outer margin broadly bordered with pale brown, the fringe pale brown; secondaries



uniformly pale brown: head, antennæ, collar, tegulæ, and thorax dark brown, the abdomen and legs pale brown. Expanse 1 inch.

*Hab.* MEXICO, Durango city (*Becker*).

One specimen.

12. **Thalpochares(?) ciniata**, sp. n. (Tab. XCV. fig. 23.)

Primaries brownish-black, thickly spotted all over with grey, the fringe black; secondaries very dark brown, slightly paler at the base: head and thorax greyish-brown, the antennæ, abdomen, and legs dark brown. Expanse  $1\frac{1}{10}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

13. **Thalpochares(?) —?**

*Hab.* GUATEMALA, San Gerónimo (*Champion*).

One worn specimen, not fit for description.

14. **Thalpochares(?) boeta**, sp. n. (Tab. XCV. fig. 24.)

Primaries black, irrorated with grey scales at the base, with a large oval grey spot about the middle of the wing extending from the costal margin almost to the inner margin, the fringe black, with a grey patch at the anal angle; secondaries brownish-black, paler at the base and along the inner margin: head, collar, tegulæ, and thorax greyish-brown, the abdomen black above, pale brown beneath; the antennæ brown. Expanse  $1\frac{1}{10}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

One specimen.

15. **Thalpochares(?) asteria**, sp. n. (Tab. XCV. fig. 25.)

Primaries pale brown, thickly irrorated with greyish-white scales, with two round greyish-white spots near the base, the apex greyish-white, the fringe darker brown; secondaries pale brown: head, thorax, and abdomen brown, the antennæ and legs pale brown. Expanse 1 inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*).

One specimen.

16. **Thalpochares(?) laurea**, sp. n. (Tab. XCV. figg. 26, 27.)

Primaries dark grey, irrorated with darker scales, the base of the wing black in some specimens; secondaries semihyaline dusky brown: head, thorax, antennæ, and legs grey, the abdomen pale brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Amula in Guerrero (*H. H. Smith*), Jalapa (*M. Trujillo*).

Varies in the extent of the markings on the primaries. We figure two of the specimens from Amula.

17. **Thalpochares daria** sp. n. (Tab. XCV. fig. 29, ♂.)

*Male.* Primaries grey, crossed near the base from the costal to the inner margin by two fine black lines, a brown band partly crossing the wing at the end of the cell from the costal margin almost to the inner margin, the outer portion of the wing clouded with brown; secondaries semihyaline pale brown: head,

collar, tegulae, and thorax dark grey, the abdomen brown, the anal tuft yellowish-brown. Expanse 1 inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

A very variable insect, of which we have received numerous specimens from Jalapa.

18. ***Thalpochares* (?) *dasarada***, sp. n. (Tab. XCV. fig. 28.)

Primaries very pale fawn-colour, darker from the middle to the base, a narrow pale line crossing the wing from the costal to the inner margin, the marginal line pale, the fringe pale fawn-colour; secondaries white, slightly dusky at the apex and round the outer margin: head, thorax, and abdomen pale fawn-colour, the antennae brown, the legs white. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*), Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Gerónimo and Cubilguitz in Vera Paz, El Reposo (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe*).

Varies considerably in colour and in the distinctness of the lines crossing the primaries. Some specimens have a small black dot at the end of the cell. We figure an example from Teapa.

XANTHOPTERA (I. p. 315).

***Xanthoptera nigrofimbria*** (I. p. 316).

To the localities given, add :—COSTA RICA, Candelaria Mts. (*Underwood*).

2. ***Xanthoptera laphyra***. (Tab. XCVI. fig. 2.)

*Xanthoptera laphyra*, Druce, P. Z. S. 1890, p. 517<sup>1</sup>.

Primaries yellowish-brown, with a pinkish tinge from the base to the middle, and crossed from the costal to the inner margin by five very indistinct pale brown lines, the costal margin from the base to near the apex bordered with primrose-yellow, the fringe yellowish-brown: secondaries yellowish-white, darker round the outer margin, the fringe whitish-brown; the underside of both wings pinkish-white: head and front of the thorax primrose-yellow, the rest of the thorax and the abdomen yellowish-brown, the antennae and legs pale brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Atoyac in Vera Cruz (*H. H. Smith*<sup>1</sup>); PANAMA, Chiriqui (*Ribbe*, in *mus. Staudinger*).

It is possible that this insect may prove to be referable to the following species, *X. alboflava*, Walk., but it does not agree with the description.

3. ***Xanthoptera* (?) *alboflava***.

*Xanthoptera* (?) *alboflava*, Walk. Trans. Ent. Soc. Lond. (3) i. p. 92 (1862)<sup>1</sup>.

*Hab.* HONDURAS<sup>1</sup>.

ANTHOPHILA (to follow the genus *Xanthoptera*, I. p. 316).

*Anthophila*, Ochsenheimer, Schmett. Europ. iv. p. 93 (1816); Treitschke, Schmett. Europ. v. 3, p. 273; Walker, Cat. xii. p. 825.

1. ***Anthophila erecta*.**

*Anthophila erecta*, Walk. Cat. xii. p. 828<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, Guatemala city (*Rodriguez*).—ANTILLES, San Domingo<sup>1</sup>.

Central-American specimens agree well with Walker's type in the National collection.

## CALYDIA (I. p. 316).

***Calydia metalligera*** (I. p. 316).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*).

## PALINDIA (I. p. 317).

***Palindia corineta*** (I. p. 317).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*).

6 (A). ***Palindia ezra***, sp. n. (Tab. XCVI. fig. 1.)

Primaries pale brown, with a purplish gloss near the base, the costal margin edged with white from the base almost to the apex, two darker brown lines crossing the wing from the costal to the inner margin—the first about the middle, the second beyond, the latter edged with metallic-blue near the anal angle; secondaries very pale brown, paler at the base and along the costal margin, with a large patch of greyish-blue scales on the hind margin about the middle, and a few black spots close to the outer margin; head, antennæ, collar, and tegulæ pale brown, the base of the collar white, the thorax and abdomen pale brown above, brownish-white beneath, the legs brownish-white. Expanse 1 inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

Allied to *P. juncida*, Guen., from which it differs in having the costal margin of the primaries white.

6 (B). ***Palindia dominicata*.**

*Palindia dominicata*, Guen. Sp. gén. des Lép. vi. p. 276, Noct. t. 11. fig. 1 (♂)<sup>1</sup>; Walk. Cat. xii. p. 846<sup>2</sup>; Bar, Ann. Soc. Ent. Fr. 1876, p. 8, t. 1. fig. 12<sup>3</sup>.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*), Jalapa (*M. Trujillo*).—GUIANA<sup>3</sup>; AMAZONS, Pará<sup>2</sup>; BRAZIL<sup>1 2</sup>.

Varies in size and in the width of the white band on the primaries, this being very narrow in the Orizaba specimens.

6 (c). ***Palindia persimilis*.**

*Palindia persimilis*, Guen. Sp. gén. des Lép. vi. p. 276<sup>1</sup>; Walk. Cat. xii. p. 847<sup>2</sup>; Bar, Ann. Soc. Ent. Fr. 1876, p. 8<sup>3</sup>.

*Hab.* GUATEMALA, Guatemala city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).—GUIANA<sup>3</sup>; BRAZIL<sup>1 2</sup>.



**Palindia punctangulata** (I. p. 319).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood*).

**Palindia micca** (I. p. 319).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Santa Clara Valley 1200 feet (*Zürcher*).

11 (A). **Palindia evadens**, sp. n. (Tab. XCVI. fig. 4.)

Primaries primrose-yellow, crossed near the base from the costal to the inner margin by a zigzag slate-coloured band, and with a small similarly-coloured spot on the costal margin close to the base and another near the apex, and two narrow brown lines extending from the anal angle partly across the wing, the marginal line black externally near the apex, the fringe yellow; secondaries pale yellowish-white, with a dark yellow streak about the centre, the middle of the outer margin irrorated with some bluish-grey scales: head, collar, tegulae, thorax, and abdomen pale primrose-yellow, the antennae brown. Expanse 1 inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, Guatemala city (*Rodriguez*).

Allied to *P. perducens*, Walk., but quite distinct.

**Palindia deva** (I. p. 320).

To the localities given, add:—GUATEMALA, Guatemala city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

14. **Palindia egista**.

*Dyomix egista*, Bar, Ann. Soc. Ent. Fr. 1876, p. 439<sup>1</sup>.

*Palindia egista*, Bar, loc. cit. t. 7. fig. 28.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).—GUIANA<sup>1</sup>; AMAZONS.

One specimen of this species has been received from Jalapa, agreeing with others from the Upper Amazons in my own collection.

15. **Palindia viridissima**.

*Palindia viridissima*, Bar, Ann. Soc. Ent. Fr. 1876, p. 248, t. 5. fig. 21<sup>1</sup>.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*).—GUIANA<sup>1</sup>.

## DYOMYX (I. p. 320).

**Dyomyx lineata** (I. p. 320).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

2. **Dyomyx zates**, sp. n. (Tab. XCVI. fig. 8.)

*Male*. Primaries pale brown, crossed about the middle from the costal to the inner margin by a wide dark brown band, which becomes narrower towards the inner margin and is edged on each side with a white line, and with a dark brown line beyond the cell partly crossing the wing from the costal margin, a submarginal row of indistinct dark brown spots extending from the apex to the anal angle, and a yellowish-brown mark close to the anal angle, the wing outside the median band thickly irrorated with

pinkish-white scales, the marginal line pale yellowish-brown, the fringe dark brown; secondaries dark brown, with a round black spot edged with yellow close to the anal angle and some lead-coloured scales above it, the marginal line and fringe yellow: head, collar, tegulæ, thorax, and abdomen dark brown, the anal tuft pale brown. Expanse 2 inches.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*).

One worn specimen.

#### DYOPS (I. p. 321.)

##### **Dyops ocellata** (I. p. 321.)

To the localities given, add:—COSTA RICA, Santa Clara Valley 1200 feet (*Zürcher*).

##### **Dyops juba** (I. p. 321.)

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

##### **Dyops minthe** (I. p. 322.)

To the localities given, add:—GUATEMALA, Guatemala city (*Rodriguez*).

#### 5. **Dyops striata**, sp. n. (Tab. XCVI. fig. 5.)

Primaries brown, darker at the base and along the inner margin, crossed near the base and beyond the middle from the costal to the inner margin by two narrow black lines, a black line extending from the middle of the outer margin and joining the second line in the middle, the outer portion of the wing shaded with grey; secondaries reddish-brown, with several pale brown dots round the outer margin, the fringe pale brown: head, antennæ, collar, tegulæ, thorax, and abdomen brown, the legs pale brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*).

A very distinct species, of which three specimens have been received.

#### CALLOPISTRIA (I. p. 323.)

##### **Callopietria floridensis** (I. p. 323.)

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*).

#### 4. **Callopietria juvenina**.

*Phalena Noctua juvenina*, Cram. Pap. Exot. iv. p. 245, t. 400. fig. N<sup>1</sup>.

*Callopietria juvenina*, Walk. Cat. xii. p. 864<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); PANAMA, Volcan de Chiriqui (*Champion*).—GUIANA, Surinam<sup>1 2</sup>.

Two specimens, very similar to Cramer's figure.

#### 5. **Callopietria agyra**. (Tab. XCVI. fig. 6.)

*Callopietria agyra*, Druce, P. Z. S. 1890, p. 517<sup>1</sup>.

Primaries dark brown, with very fine yellowish-white lines along the costal margin and crossing the wing to about the middle, a black elongated spot close to the base, several indistinct brown spots near the apex,

and a white spot at the end of the cell, beyond which is a very fine waved black line extending from the costal to the inner margin, the fringe dark brown; secondaries paler than the primaries, with a dark streak at the end of the cell, the fringe brown: thorax, abdomen, legs, and antennæ dark brown, the head and anus yellowish-brown. Expanse 1 inch.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*<sup>1</sup>).

One specimen.

**6. *Callopietria langia*.** (Tab. XCVI. fig. 7.)

*Callopietria langia*, Druce, P. Z. S. 1890, p. 518<sup>1</sup>.

Primaries brown, crossed from the costal to the inner margin by small whitish streaks, somewhat as in *C. floridensis*, forming a broad Y-shaped mark in the middle of the wing; secondaries dark brown; the fringe of both wings pale brown: head, thorax, and abdomen brown, the anus yellowish-brown, the antennæ and legs dark brown. Expanse 1 inch.

*Hab.* PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*<sup>1</sup>).

A pretty little insect, not unlike some of the European species of the genus. The female is rather larger and paler than the male.

PENICILLARIA (I. p. 324).

**3. *Penicillaria nattereri*.** (Tab. XCVI. fig. 3, ♂.)

*Penicillaria nattereri*, Feld. & Rogenh. Reise der Nov., Lep. t. 110. fig. 19 (♀)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).—BRAZIL<sup>1</sup>.

We have received a pair of this species from Jalapa.

DYSODIA (I. p. 324).

This genus, as already noted (*anteà*, ii. p. 184), would be better placed in the family Siculidæ. Five species have been enumerated by me from Central America (*loc. cit.*, Nov. 1889), and since then no additional material has come to hand.

INGURA (I. p. 326).

***Ingura abrostoloides*** (I. p. 326).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*).

***Ingura murina*** (I. p. 326).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Santa Clara Valley 1200 feet (*Zürcher*), Candelaria Mts. (*Underwood*), La Uruca, San José (*coll. Dognin*).

CALYPTIS (I. p. 327).

***Calyptis idonea*** (I. p. 328).

To the localities given, add:—GUATEMALA, Guatemala city (*Rodriguez*).



BASILODES (to follow the genus *Calyptis*, I. p. 328).

*Basilodes*, Guenée, Sp. gén. des Lép. vi. p. 358 (1852); Walker, Cat. xii. p. 936.

1. **Basilodes mina.** (Tab. XCVI. fig. 9.)

*Basilodes mina*, Schaus, Trans. Am. Ent. Soc. xxi. p. 239 (1894)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>, *M. Trujillo*).

Of this species we figure a specimen from Jalapa that has been compared with Mr. Schaus's type.

PLUSIA (I. p. 328).

**Plusia verruca** (I. p. 330).

To the localities given, add :—COSTA RICA, Candelaria Mts. (*Underwood*).

**Plusia rogationis** (I. p. 331).

To the localities given, add :—COSTA RICA, Candelaria Mts. (*Underwood*).

11 (A). **Plusia brassicæ.**

*Plusia brassicæ*, Riley, Second Ann. Report on the noxious and other Insects of Missouri, p. 110, fig. 81 (1870)<sup>1</sup>; Beth. in Report Ent. Soc. Ontario, 1871, p. 86, fig. 93<sup>2</sup>; J. B. Smith, Cat.

Noct. Bor.-Am. (Bull. U. S. Nat. Mus. no. 44) p. 253 (1893)<sup>3</sup>.

*Hab.* NORTH AMERICA, Canada and United States generally<sup>3</sup>, Missouri<sup>1 2</sup>.—MEXICO, Jalapa (*M. Trujillo*).

Mexican specimens agree with others from California in my own collection. *P. brassicæ* is quite distinct from *P. ni*, Hübn., with which Grote appears to have confounded it. The larva of this insect is a pest in North America.

13 (A). **Plusia anda.** (Tab. XCVI. fig. 10.)

*Plusia anda*, Druce, P. Z. S. 1890, p. 518<sup>1</sup>.

Primaries very pale pinkish-brown, darker about the middle, crossed from the costal to the inner margin by four narrow dark brown lines, which are edged on the outer side with pinkish-white, and with three minute black spots at the end of the cell and two small metallic-silvery spots below it; secondaries silky-brown, paler at the base; the fringe of both wings greyish-brown: head, thorax, and abdomen pale brown, the antennæ pinkish-brown, the palpi and legs dark brown, the anal tuft yellowish-brown. Expanse 1½ inch.

*Hab.* GUATEMALA, Guatemala city (*Rodriguez*<sup>1</sup>).

This species is very distinct from any other known to me, its nearest ally being *P. illustris*, Fabr.

15 (A). **Plusia roxana.** (Tab. XCVI. fig. 11.)

*Plusia roxana*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 362 (1894)<sup>1</sup>.

Primaries pale greyish-brown, with a pale greyish streak extending from the base of the wing nearest the

inner margin, below which is a reddish-brown spot, a greyish-white line crossing from the apex to the inner margin, and on the outer side of this line is a large subtriangular reddish-brown marking, the point of which just crosses the white line, the fringe pale brown; secondaries pale greyish-brown, darker round the outer margin, the fringe pale brown: head, thorax, abdomen, and legs pale greyish-brown, the antennæ dark brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*<sup>1</sup>).

One specimen.

15 (B). **Plusia masoni.** (Tab. XCVI. fig. 12.)

*Plusia masoni*, Schaus, Trans. Am. Ent. Soc. xxi. p. 238 (1894)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>, *M. Trujillo*), Orizaba (*Boucard, in mus. D.*).

We figure a specimen of this species from Jalapa.

**Plusia abrota** (I. p. 333).

To the locality given, add:—GUATEMALA, Guatemala city (*Rodriguez*).

#### THYRIA (I. p. 333).

**Thyria ditissima** (I. p. 333).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

#### PLUSIODONTA (to follow the genus *Thyria*, I. p. 333).

*Plusiodonta*, Guenée, Sp. gén. des Lép. vi. p. 359 (1852); Walker, Cat. xii. p. 937.

##### 1. **Plusiodonta thomæ.**

*Plusiodonta thomæ*, Guen. Sp. gén. des Lép. vi. p. 360<sup>1</sup>; Walk. Cat. xii. p. 937<sup>2</sup>.

*Hab.* PANAMA, Chiriqui (*Ribbe*).—ANTILLES, St. Thomas<sup>1 2</sup>.

One specimen of this species has been seen from Chiriqui.

##### 2. **Plusiodonta effulgens.**

*Plusiodonta effulgens*, H. Edwards, Papilio, iv. p. 79 (1884)<sup>1</sup>.

*Hab.* MEXICO, State of Vera Cruz (*Schaus*<sup>1</sup>).

#### DIAMUNA (I. p. 333).

The genera *Diamuna* and *Clitis* (I. p. 335), included by me in the Noctuidæ, under the subfamily Calpinæ, belong, as already noted, to the family Agaristidæ\*.

\* Cf. *anted*, i. pp. 34–36; ii. pp. 326–329.

Subfam. *HEMICERINÆ* (to precede the subfamily *Hyblæinæ*, I. p. 335).

PLUSIODES.

*Plusiodes*, Guenée, Sp. gén. des Lép. vi. p. 385 (1852).

1. *Plusiodes* (?) *laronia*. (Tab. XCVI. fig. 13.)

*Plusiodes* (?) *laronia*, Druce, P. Z. S. 1890, p. 518<sup>1</sup>.

Primaries dark brown, with a purplish shade near the base and along the outer margin, thickly irrorated with minute greyish-brown scales, and with several minute pale greyish-brown spots in the cell, a row of similarly-coloured spots beyond it, crossing the wing from the costal to the inner margin, and four pale greyish-brown spots along the outer margin towards the apex, a greyish submarginal waved line extending from the apex to the anal angle, the fringe dark brown; secondaries pure white, very broadly bordered with black from the apex to the anal angle, the fringe white: head and thorax purplish-brown above, irrorated with minute grey specks, brown beneath; the abdomen whitish-brown, paler beneath, the anus with a reddish tinge; the palpi blackish-brown; the legs brown; the antennæ reddish-brown. Expanse 2 inches.

*Hab.* PANAMA, Volcan de Chiriqui (*Arcé*, in *mus. D.*<sup>1</sup>).—ECUADOR, Sarayacu<sup>1</sup>.

Of this species I have seen a single example only from within our limits.

2. *Plusiodes* (?) *agenoria*. (Tab. XCVI. fig. 14, ♂.)

*Plusiodes* (?) *agenoria*, Druce, P. Z. S. 1890, p. 519<sup>1</sup>.

*Male.* Primaries purplish-brown, crossed from the costal to the inner margin by darker brown lines, with a wide V-shaped greyish-black mark on the costal margin close to the apex, this mark being edged with greyish-white, and three pale yellowish-brown spots close to the apex, the costal margin and the cell streaked with greyish-white, the fringe dark reddish-brown; secondaries white, broadly bordered with black from the apex to the anal angle, the fringe greyish-white: head, front of the thorax, and the base of the tegulæ bright red, the rest of the thorax and the antennæ purplish-brown; the abdomen blackish-brown above, paler beneath; the legs reddish-brown.—*Female.* Similar to the male, except that the secondaries are almost black to the base. Expanse, ♂ 1½, ♀ 1¾ inch.

*Hab.* MEXICO, Atoyac in Vera Cruz (*H. H. Smith*<sup>1</sup>: ♀).—ECUADOR, Sarayacu<sup>1</sup>.

I have seen two specimens only of this insect: a male from Ecuador and a female from Mexico.

3. *Plusiodes alesa*. (Tab. XCVI. fig. 15.)

*Plusiodes alesa*, Druce, P. Z. S. 1890, p. 519<sup>1</sup>.

Primaries purplish-brown, crossed by darker brown bands beyond the cell, with three brick-red streaks on the costal margin close to the base and three others on the inner margin, the latter extending towards the middle of the wing, a narrow >-shaped yellow line crossing the wing beyond the cell, whence several narrow straight yellow lines extend to the outer margin, a black streak edged with yellow at the end of the cell, and two curved greyish lines close to the apex, the marginal line yellow, the fringe dark brown; secondaries pure white, broadly bordered from the apex to the inner margin with black, the fringe greyish-white: head and the base of the collar bright red, the thorax and tegulæ purplish-brown; the thorax and base of the abdomen with some brick-red spots in the middle; the abdomen dark brown above, paler beneath; the antennæ, palpi, and legs dark brown. Expanse 2 inches.

*Hab.* MEXICO, Orizaba (*Boucard*, in *mus. D.*); PANAMA, Volcan de Chiriqui (*Arcé*, in *mus. D.*<sup>1</sup>), Chiriqui (*Ribbe*, in *mus. Staudinger*<sup>1</sup>).—ECUADOR, Sarayacu<sup>1</sup>.

BIOL. CENTR.-AMER., Heter., Vol. II., August 1898.

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4. **Plusiodes laodamia.** (Tab. XCVI. fig. 16.)

*Plusiodes laodamia*, Druce, P. Z. S. 1890, p. 520<sup>1</sup>.

Primaries fawn-colour, shaded with dark brown from the base to beyond the middle, with a dark brown line crossing the wing near the base from the costal to the inner margin, a curved brown line extending from about the middle of the inner margin to near the apex, a round brown mark in the cell and two brown lines at the end of it, and a semicircular dark brown mark on the costal margin close to the apex, the marginal line dark brown, the fringe yellowish-fawn-colour; secondaries dusky fawn-colour, paler at the base, the fringe pale yellowish-fawn-colour; the underside of both wings pale yellowish-fawn-colour, the primaries crossed beyond the middle by a dark brown line: head, thorax, and abdomen yellowish-fawn-colour, the abdomen tufted with reddish-brown hairs at the base; the antennæ, palpi, and legs yellowish-brown. Expanse  $1\frac{3}{4}$  inches.

*Hab.* MEXICO (*mus. Staudinger*), Amula in Guerrero 6000 feet (*H. H. Smith*<sup>1</sup>).

The specimen in Dr. Staudinger's collection is considerably paler than the one from Amula, from which the description is taken.

COSMOPHILA (I. p. 336).

**Cosmophila erosa** (I. p. 336).

To the localities given, add:—GUATEMALA, Guatemala city (*Rodriguez*).

ANOMIS (I. p. 336).

5. **Anomis flammea.**

*Anomis flammea*, Schaus, Trans. Am. Ent. Soc. xxi. p. 238 (1894)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).

CHYTORYZA (I. p. 338).

1. **Chytoryza orbica.**

*Segetia orbica*, Morr. Proc. Bost. Soc. Nat. Hist. xvii. p. 216 (1874)<sup>1</sup>.

*Amyna orbica*, J. B. Smith, Cat. Noct. Bor.-Am. (Bull. U. S. Nat. Mus. no. 44) p. 244 (1893)<sup>2</sup>.

*Chytoryza tecta*, antea, i. p. 338<sup>3</sup>.

The above synonymy is given on the authority of Mr. Smith, who states<sup>2</sup> that he has seen the types of Morrison's and Grote's species. Morrison's type<sup>1</sup> was from Texas.

2. **Chytoryza tristis**, sp. n. (Tab. XCVI. fig. 18, ♀.)

*Female.* Primaries and secondaries dull slaty-brown, the primaries crossed from the costal to the inner margin by three rows of very indistinct blackish dots: head, antennæ, thorax, and abdomen similar in colour to the wings. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

Several specimens of this dull-coloured insect were sent.

GONITIS (I. p. 338).

**Gonitis combinans** (I. p. 339).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*).

It is probable that *G. combinans* and *G. reversa*, Walk., are forms of one species;

and if this proves to be the case, the name *G. reversa* will have to be sunk as a synonym.

**PYROPHILA** (to follow the genus *Barydia*, I. p. 340).

*Pyrophila*, Hübner, Verz. bek. Schmett. p. 208 (1816); Walker, Cat. xiii. p. 1014.

**1. *Pyrophila pyramidoides*.**

*Amphipyra pyramidoides*, Guen. Sp. gén. des Lép. vi. p. 413<sup>1</sup>; Walk. Cat. xiii. p. 1018<sup>2</sup>; J. B. Smith, Cat. Noct. Bor.-Am. (Bull. U. S. Nat. Mus. no. 44) p. 197<sup>3</sup>.

*Hab.* NORTH AMERICA<sup>1</sup>, British Columbia<sup>3</sup>, Colorado<sup>3</sup>, and United States<sup>2</sup> east of the Rocky Mountains<sup>3</sup>.—MEXICO, Cofre de Perote (*M. Trujillo*).

**CAMPOMETRA** (to follow the genus *Xylis*, I. p. 342).

*Campometra*, Guenée, Sp. gén. des Lép. vii. p. 25 (1852); Walker, Cat. xiii. p. 1083.

**1. *Campometra amella*.**

*Campometra amella*, Guen. Sp. gén. des Lép. vii. p. 25<sup>1</sup>; J. B. Smith, Cat. Noct. Bor.-Am. (Bull. U. S. Nat. Mus. no. 44) p. 372<sup>2</sup>.

*Campometra amelia*, Walk. Cat. xiii. p. 1084<sup>3</sup>.

*Hab.* NORTH AMERICA<sup>1</sup>, Georgia<sup>2</sup>.—MEXICO, Guadalajara in Jalisco (*Goldsmith, in mus. D.*), Jalapa (*M. Trujillo*).

**HOMOPTERA** (I. p. 342).

***Homoptera edusa*, var. *lunata*** (I. p. 342).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

***Homoptera viridans*** (I. p. 344).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, Guatemala city (*Rodriguez*).

***Homoptera viridisquama*** (I. p. 344).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

***Homoptera decessa*** (I. p. 345).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood*).

***Homoptera amata*** (I. p. 345).

To the locality given, add:—MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, Guatemala city (*Rodriguez*).

## YPSIA (I. p. 346).

**Ypsia lineata** (I. p. 346).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*).

## PHOSPHILA (I. p. 348).

**Phosphila tatosoma** (I. p. 348).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

## CÆNIPETA (I. p. 349).

**Cænipeta medina** (I. p. 351).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

## HYPOGRAMMA (I. p. 351).

**Hypogramma damonia** (I. p. 351).

To the localities given, add:—GUATEMALA, Guatemala city (*Rodriguez, in mus. D.*).

**Hypogramma suttea** (I. p. 352).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

GADIRTHA (to follow the genus *Decelea*, I. p. 352).

*Gadirtha*, Walker, Cat. xiii. p. 1102 (1857).

1. **Gadirtha candezei**, sp. n. (Tab. XCVI. fig. 17.)

Primaries broadly bluish-black at the base, the costal half of the wing brown flecked with darker brown, the inner half mottled with greyish-black, the fringe alternately black and brown, a brown spot at the anal angle; secondaries greyish-white, broadly shaded with dark brown at the apex and round the outer margin, the fringe greyish-brown: head, antennæ, and palpi black, the collar, tegulæ, and thorax greyish-brown, the abdomen blackish-brown. Expanse  $2\frac{1}{4}$  inches.

*Hab.* GUATEMALA (*Rodriguez, in mus. D.*).

I am indebted to M. L. Candèze for a specimen of this fine species.

2. **Gadirtha (?) leena**, sp. n. (Tab. XCVI. fig. 19, ♂.)

*Male.* Primaries pale brown, mottled with darker brown about the middle and along the outer margin, and with a dark brown mark on the costal margin close to the base and a large similarly-coloured Y-shaped mark near the apex, the fringe pale brown; secondaries pale brown, with a row of very minute yellowish spots round the margin: head, antennæ, thorax, and abdomen brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* PANAMA, Bugaba (*Champion*).

One specimen.



PROMETOPUS (to follow the genus *Gadirtha*).

*Prometopus*, Guenée, Sp. gén. des Lép. v. p. 38 (1852); Walker, Cat. xiii. p. 1119.

1. *Prometopus ordinarius*, sp. n. (Tab. XCVI. fig. 20.)

Primaries blackish-brown, almost black at the base and along part of the inner margin, with a greyish spot at the end of the cell, another one below it, and a few black spots along the outer margin; secondaries brownish-white, dark brown from the apex to the anal angle, the fringe pale brown: head, antennæ, collar, and tegulæ dark brown, the thorax and abdomen pale brown, the anal tuft yellowish. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

There are specimens of this species in the British Museum labelled with the above name, but I am unable to find any published description of the insect. An example from the Volcan de Chiriqui is figured.

TRISULOIDES (to follow the genus *Prometopus*).

*Trisuloides*, Butler, Ann. & Mag. Nat. Hist. (5) vii. p. 36 (1881).

This genus was referred to the Liparidæ by Mr. Butler, who notes the resemblance of his Indian type to the genera *Chrysorithrum*, *Allotria*, and *Catocala*.

1. *Trisuloides pata*. (Tab. XCVI. fig. 21.)

*Trisulodes pata*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 362 (1894)<sup>1</sup>.

Primaries greyish-brown, crossed from the costal to the inner margin by several waved black lines, with a round grey spot in the cell, a pale grey band beyond it, this being widened towards the costal margin, and a wide black streak near the anal angle, the fringe alternately black and grey; secondaries pale yellow, broadly bordered with blackish-brown from the apex to the anal angle: head and thorax dark grey, the abdomen black. Expanse 2 inches.

*Hab.* GUATEMALA, in the city (*Rodriguez*<sup>1</sup>).

COCYTODES (to precede the genus *Stictoptera*, I. p. 353).

*Cocytodes*, Guenée, Sp. gén. des Lép. vii. p. 41 (1852); Walker, Cat. xiii. p. 1122.

1. *Cocytodes schneideriana*.

*Phulæna Noctua schneideriana*, Cram. Pap. Exot. iv. p. 37, t. 308. fig. A<sup>1</sup>; Stoll, Suppl. Cram. Pap. Exot. v. p. 109, t. 22. fig. 8 (larva)<sup>2</sup>.

*Letis schneideriana*, Guen. Sp. gén. des Lép. vii. p. 149<sup>3</sup>; Walk. Cat. xiv. p. 1269<sup>4</sup>.

*Achæa schneideriana*, Möschl. Verh. zool.-bot. Ges. Wien, 1880, p. 429<sup>5</sup>.

*Hab.* MEXICO, Orizaba (*Boucard*, in *mus. D.*), Jalapa (*M. Trujillo*); GUATEMALA, Guatemala city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*). — GUIANA, Surinam<sup>1 2 3 4 5</sup>.

Of this species I have seen five specimens from our region. It is very closely allied to the Indian *C. cærulea* and *C. granulata*, Guen., but has the primaries narrower and more pointed at the apex.

## STICTOPTERA (I. p. 353).

**Stictoptera fenestra** (I. p. 353).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*).

## MELIPOTIS (I. p. 354).

**Melipotis fasciolaris** (I. p. 354).

To the localities given, add:—GUATEMALA, Guatemala city (*Rodriguez*).

**Melipotis nigrescens** (I. p. 356).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

**Melipotis agrotoides** (I. p. 358).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood*).

23. **Melipotis inconspicua**. (Tab. XCVI. fig. 22.)

*Bolina inconspicua*, Schaus, Trans. Am. Ent. Soc. xxi. p. 240 (1894)<sup>1</sup>.

*Hab.* MEXICO, Guadalajara in Jalisco (*Goldsmith, in mus. D.*), Jalapa (*coll. Schaus*<sup>1</sup>, *M. Trujillo*); GUATEMALA, Guatemala city (*Rodriguez*).

Varies considerably in colour. The single specimen received from Guatemala is paler than the others, and it also has the apical black dots more distinct. We figure an example from Jalapa.

24. **Melipotis usipetes**, sp. n. (Tab. XCVI. fig. 23.)

Primaries blackish-brown, thickly irrorated with bluish-grey scales, with the costal margin from the base to beyond the middle pale brown and flecked with white scales, a round white dot in the cell, a large oval white spot at the end of the cell extending across the wing almost to the inner margin, and several yellowish-brown spots close to the apex, the fringe blackish-brown; secondaries black, with a central white line extending from the base to about the middle, the fringe black, a white patch about the middle of the outer margin excepted: head, antennæ, collar, tegulæ, and thorax brownish-black, the abdomen greyish-black, the underside of the thorax and abdomen greyish-brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*), Candelaria Mts. (*Underwood*).

A specimen from Jalapa is figured.

## CIRRHO BOLINA (I. p. 358).

**Cirrhololina deducta** (I. p. 358). (Tab. XCVI. fig. 24.)

We now figure our Panama specimen of this species.

**Cirrhololina mexicana** (I. p. 359).

To the Mexican localities given, add:—Guadalajara in Jalisco (*Goldsmith, in mus. D.*).

## HYPOCALA (I. p. 359).

**Hypocala andremona** (I. p. 359).

To the localities given, add:—MEXICO, Guadalajara in Jalisco (*Goldsmith, in mus. D.*), Jalapa (*M. Trujillo*); GUATEMALA, Guatemala city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

## CATOCALA (I. p. 360).

**Catocala electilis** (I. p. 360).

To the Mexican locality given, add:—Durango city (*Becker*), Mexico city (*Höge*).

This species is also recorded by Mr. J. B. Smith (Bull. U. S. Nat. Mus. no. 44, p. 343) from Nevada, Colorado, California, and Arizona. He cites as synonyms, *C. californica*, W. H. Edw., *C. cleopatra*, H. Edw., *C. irene*, Behr., *C. virgilia*, H. Edw., *C. volumnia*, H. Edw., and *C. valeria*, H. Edw.

2. **Catocala junctura**. (Tab. XCVII. fig. 1.)

*Catocala junctura*, Walk. Cat. xiii. p. 1196<sup>1</sup>; J. B. Smith, Cat. Noct. Bor.-Am. (Bull. U. S. Nat. Mus. no. 44) p. 345<sup>2</sup>.

*Catocala walshii*, W. H. Edwards, Proc. Ent. Soc. Phil. ii. p. 509<sup>3</sup>.

*Catocala arizonæ*, Grote, Canad. Ent. v. pp. 163, 233<sup>4</sup>.

*Catocala aspasia*, Streck. Lep. Rhop. et Het. p. 95<sup>5</sup>.

*Catocala cassandra*, H. Edwards, anteà, i. p. 360<sup>6</sup>.

*Catocala sara*, French, Canad. Ent. xv. p. 163<sup>7</sup>.

*Hab.* NORTH AMERICA, United States<sup>1</sup>, Illinois<sup>3</sup>, Colorado<sup>2 7</sup>, Utah<sup>2</sup>, New Mexico<sup>2 4</sup>, Texas<sup>2 5</sup>, California<sup>2 5</sup>.—MEXICO<sup>6</sup>, Durango city (*Becker*).

The single specimen received from Durango agrees well with Walker's type of *C. junctura* in the National Museum. The synonymy is given on the authority of Mr. J. B. Smith, who cites<sup>2</sup> upwards of thirty references for this species.

2 (A). **Catocala amatrix**.

*Lamprosia amatrix*, Hübn. Samml. exot. Schmett. ii. t. 214<sup>1</sup>; Verz. bek. Schmett. p. 277<sup>2</sup>.

*Catocala amatrix*, Guen. Sp. gén. des Lép. vii. p. 86<sup>3</sup>; Walk. Cat. xiii. p. 1195<sup>4</sup>; J. B. Smith, Cat. Noct. Bor.-Am. (Bull. U. S. Nat. Mus. no. 44) p. 344<sup>5</sup>.

*Catocala parta*, Walk. loc. cit. p. 1193<sup>6</sup>.

*Catocala selecta*, Walk. loc. cit. p. 1197<sup>7</sup>.

*Catocala nurus*, Walk. loc. cit. p. 1195<sup>8</sup>.

*Catocala editha*, W. H. Edwards, Trans. Am. Ent. Soc. v. p. 112 (1874)<sup>9</sup>.

*Hab.* NORTH AMERICA<sup>3</sup>, Nova Scotia<sup>4 5</sup>, Canada<sup>4</sup>, United States<sup>6 7 8</sup> to Colorado<sup>5</sup>, Texas<sup>5</sup>, Florida<sup>5</sup>, and Arizona<sup>5 9</sup>.—MEXICO, Durango city (*Becker*).

Two specimens from Durango, almost identical with others from North America in my own collection. The synonymy is given on Mr. Smith's authority.



#### 4. *Catocala neogama*.

*Phalæna neogama*, Abbot & Smith, Lep. Georgia, ii. p. 175, t. 88<sup>1</sup>.

*Catocala neogama*, Duncan, in Jardine's Nat. Libr. xxxvii. p. 202, t. 26. figg. 1, 2<sup>2</sup>; Guen. Sp. gén. des Léop. vii. p. 96<sup>3</sup>; J. B. Smith, Cat. Noct. Bor.-Am. (Bull. U. S. Nat. Mus. no. 44) p. 349<sup>4</sup>.

*Catocala communis*, Grote, Trans. Am. Ent. Soc. iv. p. 9<sup>5</sup>.

*Catocala snowiana*, Grote, List of Noctuidæ, p. 41 (1876)<sup>6</sup>.

*Hab.* NORTH AMERICA<sup>2 3 6</sup>, United States<sup>5</sup> east of the Rocky Mountains<sup>4</sup>, Georgia<sup>1</sup>, Kansas<sup>4</sup>, Arizona<sup>4</sup>.—MEXICO, Durango city (*Becker*).

#### 5. *Catocala juanita*.

*Catocala juanita*, Schaus, Trans. Am. Ent. Soc. xxi. p. 241 (1894)<sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*<sup>1</sup>).

This species is quite unknown to me. Mr. Schaus states<sup>1</sup> that the secondaries are pure white, with a fine terminal black line on the outer margin.

### OPHIDERES (I. p. 360).

#### *Ophideres serpentifera* (I. p. 361).

*Ophideres raphael*, A. Dugès, La Naturelleza, (2) ii. pp. 456, 459, t. 28 (1895)<sup>1</sup>.

To the localities given, add:—MEXICO<sup>1</sup>, Orizaba (*Flohr*), Jalapa (*M. Trujillo*).

#### *Ophideres apta* (I. p. 361).

To the localities given, add:—MEXICO, Orizaba (*Flohr*), Jalapa (*M. Trujillo*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

#### 3. *Ophideres collusoria*.

*Phalæna Noctua collusoria*, Cram. Pap. Exot. ii. p. 116, t. 172. fig. F<sup>1</sup>.

*Trissophaes collusaria*, Hübn. Verz. bek. Schmett. p. 264<sup>2</sup>.

*Ophideres collusoria*, Guen. Sp. gén. des Léop. vii. p. 117<sup>3</sup>; Walk. Cat. xiii. p. 1220<sup>4</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).—GUIANA, Surinam<sup>1 3 4</sup>.

One specimen from Jalapa, the first received from our region.

#### 4. *Ophideres scabellum*. (Tab. XCVII. fig. 4.)

*Ophideres scabellum*, Guen. Sp. gén. des Léop. vii. p. 117<sup>1</sup>; Walk. Cat. xiii. p. 1219<sup>2</sup>.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*).—COLOMBIA; VENEZUELA; UPPER AMAZONS; BRAZIL<sup>2</sup>; ARGENTINE REPUBLIC.

One specimen of this common South-American species has been received from Costa Rica. Guenée's types<sup>1</sup> were from an unknown locality.

## GRAPHIGONA (I. p. 361).

**Graphigona gubernatrix** (I. p. 361).

To the localities given, add:—MEXICO, Orizaba (*Flohr*); BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); GUATEMALA, Guatemala city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

## HEMEROBLEMMMA (I. p. 362).

**Hemeroblemma dolosa** (I. p. 362).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

## PEOSINA (I. p. 362).

**Peosina mexicana** (I. p. 362).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

**Peosina pandrosa** (I. p. 363).

To the localities given, add:—MEXICO, Orizaba (*Boucard, in mus. D.*), Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*).

## BLOSYSIS (I. p. 364).

**Blosysis lusciniæpennis** (I. p. 365).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

## BRUJAS (I. p. 365).

**Brujas malitissa** (I. p. 366).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

**Brujas rengus** (I. p. 366).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*).

**Brujas repandens** (I. p. 366).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

## SYPNA (I. p. 367).

2. *Sypna azteca*. (Tab. XCVII. figg. 2, ♂; 3, ♀.)

*Hadræcia azteca*, Schaus, Trans. Am. Ent. Soc. xxi. p. 231 (1894) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus* <sup>1</sup>, *M. Trujillo*), Orizaba (*Boucard, in mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood*).

A very variable species. Of the ten specimens before me no two are exactly alike; the central band on the primaries is sometimes pure white. We figure a pair from Jalapa.

## RAMPHIA (I. p. 367).

*Ramphia albizona* (I. p. 367).

To the localities given, add:—HONDURAS, San Pedro Sula (*Wittkugel, in mus. D.*); COSTA RICA, Santa Clara Valley (*Zürcher*).

## LETIS (I. p. 368).

*Letis xylia* (I. p. 370).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); NICARAGUA, Matagalpa (*Richardson*).

*Letis fusa* (I. p. 370).

To the localities given, add:—GUATEMALA, Guatemala city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

*Letis vultura* (I. p. 370).

To the localities given, add:—MEXICO, Orizaba (*Boucard, in mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood*).

*Letis herilia* (I. p. 371).

To the localities given, add:—COSTA RICA, Santa Clara Valley (*Zürcher*), Candelaria Mts. (*Underwood*).

*Letis orcynia* (I. p. 371).

To the localities given, add:—GUATEMALA, Guatemala city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

*Letis buteo* (I. p. 372).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).



## LATEBRARIA (I. p. 373).

**Latebraria amphipyroides** (I. p. 373).

To the localities given, add :—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

## CYCLOPIS (I. p. 373).

**Cyclopis cæcutiens** (I. p. 373).

To the localities given, add :—MEXICO, Orizaba (*Boucard, in mus. D.*).

## THYSANIA (I. p. 374).

**Thysania tiasa** (I. p. 374).

To the locality given, add :—GUATEMALA, Guatemala city (*Rodriguez*).

## BENDIS (I. p. 377).

5. **Bendis (?) jonesi**, sp. n. (Tab. XCVII. fig. 5.)

Primaries pale brown, crossed by a dark brown band, edged with a waved black line on the outer side from near the apex to the inner margin, with a pale fawn-coloured band extending from the apex to the end of the cell and then to the inner margin, a white streak at the end of the cell, a submarginal straight line extending from the apex to the anal angle, and a blackish-brown spot about the middle of the outer margin, the marginal line black, the fringe dark brown; secondaries brown, crossed below the middle from the costal to the inner margin by a wide pale fawn-coloured band, below which is a dark brown rather wide line, the submarginal line pale brown and extending from the apex to the anal angle, the marginal line and a spot about the middle of the outer margin black, the fringe brown: head, antennæ, collar, tegulæ, thorax, and the abdomen brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* GUATEMALA, Volcan de Atitlan 2500 feet (*Champion*).

One specimen, named by Mr. Schaus as *Pteroma jonesi*, but I am unable to find that he has described it.

6. **Bendis fufius**.

*Bendis fufius*, Schaus, Trans. Am. Ent. Soc. xxi. p. 243 (1894) <sup>1</sup>.

*Hab.* MEXICO, Coatepec (*coll. Schaus* <sup>1</sup>).

7. **Bendis gentilis**.

*Bendis gentilis*, Schaus, Trans. Am. Ent. Soc. xxi. p. 243 (1894) <sup>1</sup>.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus* <sup>1</sup>).

OPHIODES (to precede the genus *Ophisma*, I. p. 379).

*Ophiodes*, Guenée, Ann. Soc. Ent. Fr. x. p. 77 (1841); Sp. gén. des Léop. vii. p. 227; Walker, Cat. xiv. p. 1353.

1. **Ophiodes daona.** (Tab. XCVII. fig. 6.)

*Ophiodes daona*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 362 (1894) <sup>1</sup>.

Primaries pale yellowish-fawn-colour, slightly irrorated with minute black specks, the fringo yellow; secondaries blackish-grey, the fringe yellow: head, thorax, and abdomen of the same colour as the primaries, the antennæ dark brown. Expanse  $2\frac{1}{4}$  inches.

*Hab.* MEXICO, Orizaba (*mus. D.*<sup>1</sup>); GUATEMALA, Guatemala city (*Rodriguez, in mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood*).

A specimen from Orizaba is figured.

2. **Ophiodes raphia.** (Tab. XCVII. fig. 7.)

*Ophiodes raphia*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 362 (1894) <sup>1</sup>.

Primaries pale greyish-mouse-colour, with a dark brown spot at the end of the cell, a row of small dark brown spots beyond it, extending from the costal to the inner margin, and three black spots close to the apex, the marginal line with black points; secondaries pale mouse-colour, almost white at the base; the fringo pale yellowish-brown: head, thorax, and abdomen greyish-mouse-colour. Expanse 2 inches.

*Hab.* MEXICO, Orizaba (*mus. D.*<sup>1</sup>).

One specimen.

## OPHISMA (I. p. 379).

**Ophisma detrahens** (I. p. 379).

To the localities given, add :—MEXICO, Durango city (*Becker*), Jalapa (*M. Trujillo*).

**Ophisma delunaris** (I. p. 379).

To the localities given, add :—COSTA RICA, Santa Clara Valley (*Zürcher*).

## ACHÆA (I. p. 380).

**Achæa schausi** (I. p. 380).

To the locality given, add :—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

## POAPHILA (I. p. 382).

**Poaphila paucula** (I. p. 383).

To the locality given, add :—MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Zapote, San Gerónimo (*Champion*); HONDURAS, Ruatan I. (*Gaumer*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

CHADACA (to follow the genus *Rhosologia*, I. p. 383).

*Chadaca*, Walker, Cat. xv. p. 1640 (1858).

1. **Chadaca atrosignata.**

*Chadaca atrosignata*, Walk. Cat. xv. p. 1641 <sup>1</sup>.

*Hab.* GUATEMALA, El Tumbador (*Champion*).—VENEZUELA <sup>1</sup>.

## HERMINODES (I. p. 383).

2. **Herminodes sabata**. (Tab. XCVII. fig. 10.)

*Herminodes sabata*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 363 (1894) <sup>1</sup>.

*Female*. Primaries very pale fawn-colour, with a small spot at the base, a dot in the cell, and a large comma-shaped marking at the end of the cell all reddish-brown, a star-shaped brown spot near the base on the inner margin; secondaries blackish-brown; the fringe of both wings pale fawn-colour: head and thorax fawn-colour, the abdomen and antennæ brown. Expanse  $2\frac{1}{4}$  inches.

*Hab.* MEXICO, Orizaba (*mus. D.* <sup>1</sup>); GUATEMALA, Guatemala city (*Rodriguez*); COSTA RICA, Candelaria Mts. (*Underwood*).

The male differs from the female in having a dark spot at the end of the cell. We figure the type from Orizaba.

## BANIANA (I. p. 384).

4. **Baniana appensa**.

*Heterogramma* (?) *appensa*, Feld. & Rogenh. Reise der Nov., Lep. t. 120. fig. 13 <sup>1</sup>.

*Hab.* GUATEMALA, Coban in Vera Paz, Las Mercedes (*Champion*).

The two specimens obtained in Guatemala are very similar to Felder and Rogenhofer's figure. Their type <sup>1</sup> was from an unknown locality.

5. **Baniana gobar**, sp. n. (Tab. XCVII. fig. 8.)

Primaries pale fawn-colour, broadly bordered on the outer margin with dark brown, this colour becoming paler externally, and with two small black spots on the edge of the costal margin, and a rather large black mark on the inner margin near the base; secondaries pale brown: head, collar, and antennæ dark brown, the thorax and abdomen pale fawn-colour. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Cuernavaca in Morelos, Dos Arroyos and Tierra Colorada in Guerrero (*H. H. Smith*); GUATEMALA, San Gerónimo (*Champion*).

Four specimens, showing considerable variation in the extent of the markings on the primaries. We figure a dark example from Dos Arroyos.

6. **Baniana helicon**, sp. n. (Tab. XCVII. fig. 9.)

Primaries pale fawn-colour, crossed from the costal to the inner margin by two darker brown lines—the first indistinct, close to the base, the second beyond the middle, much wider, and darker,—and with a waved submarginal line extending from the apex to the anal angle, the marginal line black, the fringe fawn-colour; secondaries brown: head and front of the thorax reddish-brown, the abdomen blackish-brown. Expanse 1 inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Volcan de Atitlan 2500 feet (*Champion*).

The Guatemalan specimen is figured.

7. **Baniana fulvia**, sp. n. (Tab. XCVII. fig. 11, ♂; 12, ♀.)

*Male*. Primaries pale brown from the base to beyond the cell, where the wing is crossed from the costal to the inner margin by a straight dark brown line, beyond which to the outer margin it is yellowish-fawn-



colour, with a very faint submarginal waved line extending from the apex to the anal angle and three dark brown spots on the edge of the costal margin; secondaries brown, darker round the outer margin from the apex to the anal angle, the fringe pale fawn-colour: head and collar dark reddish-brown, the antennæ brown, the thorax, tegulæ, and abdomen pale brown, the anal tuft yellowish.—*Female*. Very similar to the male, but generally darker and without the dark brown line on the primaries. Expanse, ♂ ♀,  $1\frac{1}{4}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

8. **Baniana (?) ostia**, sp. n. (Tab. XCVII. figg. 13, ♂; 14, ♀.)

*Male*. Primaries pale brown, darker on the costal margin near the apex, and crossed from the costal to the inner margin by two fine yellow lines, which are edged with dark brown on the outer side, two black dots at the end of the cell, and a very indistinct submarginal waved line extending from the apex to the anal angle, the fringe brown; secondaries pale brown: head and collar black, the tegulæ, thorax, abdomen, and legs brown, the antennæ pale brown.—*Female*. Very similar to the male, but with the submarginal waved line very much more distinct, and the marginal line of both wings spotted with black. Expanse, ♂ ♀,  $1\frac{8}{10}$  inch.

*Hab.* MEXICO, Dos Arroyos in Guerrero (*H. H. Smith*: ♂); PANAMA, Bugaba (*Champion*: ♀).

We figure both specimens. The front tibiæ in the male are thickly clothed with very long hairs, forming a dense brush.

PHURYS (I. p. 384).

9. **Phurys moxa**.

*Phurys moxa*, Schaus, Trans. Am. Ent. Soc. xxi. p. 243 (1894) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus* <sup>1</sup>).

FOCILLA (I. p. 392).

**Focilla guerini** (I. p. 392).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood*).

**Focilla recurva** (I. p. 392).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*).

2 (A). **Focilla plusioides**.

*Focilla plusioides*, Walk. Cat. xv. p. 1532 <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*).—AMAZONS, Santarem <sup>1</sup>.

Our specimens agree very well with Walker's description, but I have not seen the type.

**Focilla lacæna** (I. p. 394).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*).

**Focilla lala** (I. p. 394).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

**Focilla relata** (I. p. 394).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*).

## TAUTOBRIGA (I. p. 395).

**Tautobriga euspila** (I. p. 395).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

## ARGIDIA (I. p. 398).

**Argidia wedelina** (I. p. 399).

To the localities given, add:—COSTA RICA, Santa Clara Valley 1200 feet (*Zürcher*).

4. **Argidia** — ?

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*).

Two worn specimens, unsuitable for description.

## ORTHOGRAMMA (I. p. 399).

**Orthogramma lamida** (I. p. 399).

To the localities given, add:—COSTA RICA, Santa Clara Valley 1200 feet (*Zürcher*).

## THERMESIA (I. p. 400).

6. **Thermesia joha**, sp. n. (Tab. XCVII. fig. 15, ♂.)

*Male.* Primaries and secondaries dark brown; the primaries slightly greyish along the costal margin, with a narrow yellowish-brown line crossing the wing near the base and a very distinct similarly-coloured line beyond the middle, the latter extending from the costal to the inner margin and continued across the centre of the secondaries; both wings with a submarginal row of indistinct grey spots, and the fringe dark brown: head, collar, tegulæ, thorax, abdomen, and legs brown, the antennæ pale brown. Expanse  $1\frac{3}{16}$  inch.

*Hab.* MEXICO, Atoyac in Vera Cruz (*H. H. Smith*), Jalapa (*coll. Schaus*); GUATEMALA, San Gerónimo and Balheu in Vera Paz, Volcan de Atitlan, Zapote (*Champion*); PANAMA, Chiriqui (*Ribbe*), Volcan de Chiriqui (*Champion*).

Sent in some numbers from Guatemala. A specimen from San Gerónimo is figured.

7. **Thermesia ceras**, sp. n. (Tab. XCVII. fig. 16, ♂.)

*Male*. Primaries and secondaries pale brownish-fawn-colour, with the outer portion darker, each with a white line edged on the outer side with yellowish-brown crossing the wing beyond the middle, and a very indistinct submarginal row of brown dots; the primaries crossed near the base from the costal to the inner margin by a fine brown line, which is edged with white on the outer side, and with an oval spot at the end of the cell, this spot being edged with a fine white line; the fringe pale brown: head, thorax, collar, tegulae, abdomen, antennae, and legs brown, the anal tuft yellowish-brown.—*Female*. Very similar to the male. Expanse 1 inch.

*Hab*. GUATEMALA, Zapote, Volcan de Atitlan (*Champion*).

Two males and one female. A male from the Volcan de Atitlan is figured.

8. **Thermesia electrica**.

*Thermesia electrica*, Schaus, Trans. Am. Ent. Soc. xxi. p. 244 (1894) <sup>1</sup>.

*Hab*. MEXICO, Jalapa (*coll. Schaus* <sup>1</sup>).

9. **Thermesia lara**.

*Thermesia lara*, Schaus, Trans. Am. Ent. Soc. xxi. p. 244 (1894) <sup>1</sup>.

*Hab*. MEXICO (*coll. Schaus* <sup>1</sup>).—PERU <sup>1</sup>.

PANGRAPTA (I. p. 401).

1 (A). **Pangrapta minuta**, sp. n. (Tab. XCVII. fig. 17, ♂.)

*Male*. Primaries and secondaries dark brown; the primaries crossed from the costal to the inner margin by three indistinct dark brown lines, with the costal margin slightly greyish, the end of the cell spotted with white, a white streak at the apex, and a submarginal row of very minute greyish spots; the secondaries crossed from the costal to the inner margin by two faint greyish lines; the fringe of both wings dark brown: head, antennae, thorax, abdomen, and legs dark brown.—*Female*. Very similar to the male, but generally paler. Expanse 1 inch.

*Hab*. MEXICO, Presidio de Mazatlan (*Forrer*); GUATEMALA, Cerro Zunil, Volcan de Atitlan (*Champion*); COSTA RICA, Volcan de Irazu (*Rogers*); PANAMA, Volcan de Chiriqui (*Champion*).

This insect is perhaps a small race of *P. rupugnalis*, Hübn., but it seems to be constant in the above-mentioned localities. We figure a specimen from the Volcan de Atitlan.

**Pangrapta hypopyrina** (I. p. 401).

To the localities given, add:—NICARAGUA, Matagalpa (*Richardson*); COSTA RICA, Santa Clara Valley (*Zürcher*).

METALECTRA (I. p. 403).

**Metalectra præcisalis** (I. p. 403).

To the localities given, add:—COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).



**Metalectra dotata** (I. p. 404).

To the localities given, add:—MEXICO, Cordova (*Rümelí*).

## SELENIS (I. p. 406).

8. **Selenis cades**. (Tab. XCVII. fig. 18, ♂.)

*Selenis cades*, Druce, Ann. & Mag. Nat. Hist. (7) ii. p. 226 (1898) <sup>1</sup>.

*Male*. Primaries dark brown, crossed from the costal to the inner margin by a number of fine black lines, with a pale brown rather wide submarginal line extending from the apex to the anal angle, and some white spots and a greyish line at the end of the cell; secondaries dark brown, crossed below the middle by some very fine waved dark brown lines, a pale brown line extending from near the apex to the anal angle; the fringe alternately dark and light brown: head, antennæ, thorax, and abdomen dark brown, the underside of the latter and the legs pale brown.—*Female*. Very similar to the male, but considerably larger. Expanse, ♂ 1 $\frac{3}{4}$ , ♀ 2 inches.

*Hab.* GUATEMALA, Volcan de Atitlan (*Champion* <sup>1</sup>).

## EPHYRODES (I. p. 409).

**Ephyrodes implens** (I. p. 409).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*).

## GIGIA (I. p. 412).

**Gigia obliqua** (I. p. 412).

To the localities given, add:—COSTA RICA, Santa Clara Valley (*Zürcher*).

## MASSALA (I. p. 412).

**Massala quassa** (I. p. 413).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

**Massala larina** (I. p. 413).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*).

## CAPNODES (I. p. 413).

**Capnodes laranda** (I. p. 415).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*).

22. **Capnodes rhoda**. (Tab. XCVII. fig. 19.)

*Capnodes rhoda*, Drucc, Ann. & Mag. Nat. Hist. (7) ii. p. 227 (1898) <sup>1</sup>.

Primaries and secondaries fawn-colour; the primaries crossed beyond the middle from the costal to the inner margin by two narrow waved yellow lines edged with black and brown scales, with a dark yellowish-brown oval spot at the end of the cell and a few whitish spots crossing the wing near the base, the marginal line spotted with black, the fringe dark fawn-colour; the secondaries crossed below the middle from the costal to the inner margin by a yellowish-white line, which is wider towards the inner margin, and with a submarginal row of minute yellow and black dots extending from the apex to the anal angle,

the marginal line black, the fringe fawn-colour: head, antennæ, thorax, and abdomen pale brown, the legs brown. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith* <sup>1</sup>).

One specimen.

23. **Capnodes (?) pira.** (Tab. XCVII. fig. 20.)

*Capnodes (?) pira*, Druce, Ann. & Mag. Nat. Hist. (7) ii. p. 227 (1898) <sup>1</sup>.

Primaries and secondaries brown; the primaries crossed from the costal to the inner margin by two narrow yellow lines—the first near the base, the second beyond the middle,—and with a large black spot at the end of the cell, and a submarginal row of very indistinct dark brown spots extending from the apex to the anal angle; the secondaries very similarly marked to the primaries, but with only one yellow line crossing the wing: head, antennæ, thorax, abdomen, and legs brown. Expanse 1 inch.

*Hab.* GUATEMALA, Volcan de Atitlan, San Gerónimo (*Champion* <sup>1</sup>); PANAMA, Chiriqui (*Ribbe*), Volcan de Chiriqui (*Champion*).

Varies in colour and in the distinctness of the black spot at the end of the cell of the primaries, this being almost obliterated in some specimens. We figure an example from the Volcan de Chiriqui.

HYPENARIA (I. p. 419).

**Hypenaria umbrigena** (I. p. 421).

To the localities given, add.—COSTA RICA, Santa Clara Valley 1200 feet (*Zürcher*).

MACRODES (I. p. 423).

**Macrodes cynara** (I. p. 423).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

**Macrodes gyges** (I. p. 424).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

GUSTIANA (I. p. 425).

**Gustiana libitina** (I. p. 425).

Two species were confused by me under this name, the specimens from Jalapa and Cuernavaca belonging to the following, *G. intermedia*.

2 (A). **Gustiana intermedia.** (Tab. XCVII., fig. 21.)

*Gustiana libitina*, antea, i. p. 425 (part.).

*Gustiana intermedia*, Druce, Ann. & Mag. Nat. Hist. (7) ii. p. 228 (1898) <sup>1</sup>.

Primaries and secondaries pale brown; the primaries crossed from the costal to the inner margin by two yellowish-brown lines—the first near the base, the second beyond the cell, extending from near the apex to the middle of the inner margin,—and with a very faint submarginal line extending from the apex to the anal angle and two small black spots at the end of the cell: head, antennæ, thorax, and abdomen pale brown. Expanse 1 inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo* <sup>1</sup>), Cuernavaca in Morelos (*H. H. Smith*).

Several specimens, mostly in bad condition.

4. **Gustiana mecyanalis.** (Tab. XCVII. fig. 22.)

*Gustiana mecyanalis*, Druce, Ann. & Mag. Nat. Hist. (7) ii. p. 228 (1898)<sup>1</sup>.

*Male*. Primaries cream-colour, slightly irrorated with brown scales at the apex and along part of the outer margin, with two yellow lines crossing the wing from the costal to the inner margin—the first about the middle, the second beyond,—the marginal line black; secondaries brownish-cream-colour, darker at the apex and round the outer margin; the fringe pale cream-colour: head, antennæ, and thorax cream-colour, the abdomen yellow.—*Female*. Very similar to the male, but paler. Expanse  $1\frac{1}{10}$  inch.

*Hab.* MEXICO, Northern Sonora (*Morrison*<sup>1</sup>), Milpas in Durango 5900 feet (*Forrer*<sup>1</sup>), Omilteme 8000 feet (*H. H. Smith*).

5. **Gustiana nigripalpis.** (Tab. XCVII. fig. 23.)

*Gustiana nigripalpis*, Druce, Ann. & Mag. Nat. Hist. (7) ii. p. 228 (1898)<sup>1</sup>.

*Male*. Primaries and secondaries uniformly brownish-cream-colour: head, antennæ, thorax, abdomen, and legs brownish-cream-colour, the palpi black. Expanse 1 inch.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*<sup>1</sup>).

Three specimens.

HYPENA (I. p. 427).

9 (A). **Hypena philomedia.** (Tab. XCVII. fig. 24, ♂.)

*Hypena philomedia*, Druce, Ann. & Mag. Nat. Hist. (7) ii. p. 228 (1898)<sup>1</sup>.

*Male*. Primaries reddish-brown, with a large greyish spot on the costal margin near the apex, the base and a space along the inner margin greyish-brown, the fringe dark brown; secondaries dark greyish-brown: head, palpi, antennæ, thorax, abdomen, and legs brown. Expanse  $1\frac{4}{10}$  inch.

*Hab.* GUATEMALA, Guatemala city (*Rodriguez*<sup>1</sup>); COSTA RICA, Candelaria Mts. (*Underwood*).

Two specimens: the one from Guatemala is larger and darker than the example from Costa Rica, from which our figure is taken.

**Hypena vetustalis** (I. p. 430).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

**Hypena andria** (I. p. 431).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*).

**Hypena lebonia** (I. p. 432).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*).

**Hypena pacatalis** (I. p. 432).

To the localities given, add:—GUATEMALA, San Gerónimo (*Champion*); COSTA RICA, Candelaria Mts. (*Underwood*).



**Hypena hemonalis** (I. p. 433).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

## LAMETIA (I. p. 442).

**Lametia ignitalis** (I. p. 442).

To the localities given, add:—COSTA RICA, Santa Clara Valley (*Zürcher*), Candelaria Mts. (*Underwood*).

CYCLOPTERYX (to follow the genus *Rivula*, I. p. 444).

*Cyclopteryx*, Walker, Cat. xvi. p. 90 (1858).

1. **Cyclopteryx oculata**. (Tab. XCVII. fig. 25, ♂.)

*Cyclopteryx oculata*, Druce, Ann. & Mag. Nat. Hist. (7) ii. p. 229 (1898)<sup>1</sup>.

*Male*. Primaries and secondaries pale greyish-brown, thickly irrorated with white scales and zigzag brown lines; the primaries with a large round black spot, edged with yellow and with a white dot in the middle, at the end of the cell; the fringe of both wings pale brown: head, thorax, and abdomen pale brown, the antennæ blackish-brown.—*Female*. Similar to the male, but with simple antennæ. Expanse  $1\frac{9}{10}$  inch.

*Hab*. GUATEMALA, Totonicapam 8500 to 10,500 feet<sup>1</sup>, San Isidro 1600 feet (*Champion*).

A specimen from San Isidro is figured. Mr. Champion obtained a good series of this species from that locality, where the insect was found in plenty on tree-trunks in a cacao-plantation. It rests with the wings horizontally expanded and flies off on being approached.

## BLEPTINA (I. p. 454).

**Bleptina (?) antelia** (I. p. 456).

To the locality given, add:—COSTA RICA, Santa Clara Valley 1200 feet (*Zürcher*).

## EPIZEUXIS (I. p. 465).

**Epizeuxis (?) maceria** (I. p. 466).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

5. **Epizeuxis (?) lineata**. (Tab. XCVII. fig. 26.)

*Epizeuxis (?) lineata*, Druce, Ann. & Mag. Nat. Hist. (7) ii. p. 229 (1898)<sup>1</sup>.

*Male*. Primaries and secondaries slate-colour; the primaries crossed from the costal to the inner margin by three dark brown lines—the first close to the base, the second about the middle, the third beyond,—and with a submarginal row of very indistinct brown dots extending from the apex to the anal angle, the marginal line black, the fringe slate-colour; the secondaries very similarly marked to the primaries, but without the brown line at the base: head, antennæ, thorax, and abdomen slate-colour.—*Female*. Very similar to the male. Expanse  $1\frac{1}{10}$  inch.

*Hab*. MEXICO, Dos Arroyos and Rio Papagaio in Guerrero<sup>1</sup>, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Cahabon in Vera Paz (*Champion*).

We figure a specimen from Dos Arroyos; it is slightly darker than any of the others.

## BERTULA (I. p. 475).

**Bertula talausalis** (I. p. 476).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

**Bertula lycas** (I. p. 476).

To the locality given, add:—MEXICO, Orizaba (*Boucard, in mus. D.*).

## ARGANIA (I. p. 480).

**Argania pilosa** (I. p. 480).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*).

## IPNEA (I. p. 482).

**Ipnea marina** (I. p. 482).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*).

## DIDUGUA (I. p. 483).

**Didugua argenteolinea** (I. p. 483).

To the localities given, add:—MEXICO, Jalapa (*Boucard, in mus. D.*).

## CORONIDIA (II. p. 5).

**Coronidia hysudrus** (II. p. 5).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

**Coronidia interlineata** (II. p. 7).

To the locality given, add:—PANAMA, Volcan de Chiriqui (*Trötsch, in mus. D.*).

**Coronidia ocylus** (II. p. 8).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*); PANAMA, Chiriqui (*Trötsch, in mus. D.*).

15. **Coronidia beckeri**. (Tab. XCVIII. fig. 1, ♀.)

*Coronidia beckeri*, Druce, Ann. & Mag. Nat. Hist. (6) xiii. p. 353 (1894) <sup>1</sup>.

*Female*. Primaries dull blackish-brown, crossed from the costal to the inner margin by a number of fine waved black lines, and with a greyish spot on the costal margin near the apex, the fringe black; secondaries pale yellow, with a waved black line crossing the wing below the middle from the costal to the inner margin, the outer margin bordered with fine waved blackish-brown lines: head, antennæ, and thorax blackish-brown, the abdomen yellowish. Expanse 2 inches.

*Hab.* MEXICO, near Durango city (*Becker* <sup>1</sup>).

One specimen. Very distinct from all the known species of the genus.

## SERICOPTERA (II. p. 9).

**Sericoptera mahometaria** (II. p. 9).

To the localities given, add :—COSTA RICA, Candelaria Mts. (*Underwood*).

## NEPHELOLEUCA (II. p. 9).

**Nepheloleuca politia** (II. p. 9).

To the localities given, add :—COSTA RICA, Candelaria Mts. (*Underwood*).

**Nepheloleuca ardania** (II. p. 10).

To the locality given, add :—COSTA RICA, Candelaria Mts. (*Underwood*).

The female is very similar to the male, but rather larger.

## ÆSCHROPTERYX (II. p. 10).

**Æschropteryx marciala** (II. p. 11).

To the localities given, add :—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in us. D.*).

## SABULODES (II. p. 13).

**Sabulodes arge** (II. p. 13).

To the localities given, add :—MEXICO, Jalapa (*M. Trujillo*).

## MUCRONODES (II. p. 17).

**Mucronodes transcendens** (II. p. 17).

To the localities given, add :—COSTA RICA, Santa Clara Valley (*Zürcher*).

## CIMICODES (II. p. 18).

**Cimicodes torquataria** (II. p. 18).

To the localities given, add :—COSTA RICA, Santa Clara Valley (*Zürcher*).

One specimen, heavily marked with black spots on the secondaries.

## PARAGONIA (II. p. 19).

**Paragonia occiduata** (II. p. 20).

To the localities given, add :—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

**Paragonia cruraria** (II. p. 20).

To the localities given, add :—COSTA RICA, Candelaria Mts. (*Underwood*).

The Costa Rican specimen has the secondaries very much blacker than in any of the others I have seen.



**Paragonia arbocala** (II. p. 20).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood*).

5. **Paragonia maculata**. (Tab. XCVIII. fig. 2, ♂.)

*Paragonia maculata*, Warren, Novit. Zool. iv. p. 498 (1897)<sup>1</sup>.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*<sup>1</sup>).—ECUADOR, Sarayacu (*Buckley, in mus. D.*).

The sexes of this species are very similar. We are indebted to the Hon. Walter Rothschild for the loan of the Costa Rican types, one of which is figured.

## LYCIMNA (II. p. 21).

6. **Lycimna timareta**, sp. n. (Tab. XCVIII. fig. 3, ♀.)

*Female*. Primaries and secondaries yellowish-fawn-colour; the primaries yellowish about the middle, the outer margin and the apex shaded with pink, a fine line extending from the costal margin near the apex to the inner margin near the anal angle, and a yellowish spot above the anal angle irrorated with black scales; the secondaries crossed about the middle from the costal to the inner margin by a narrow waved brown line, below which nearest the anal angle are several pale yellow marks; the underside of both wings yellowish-brown, with the lines very much as above. Expanse 2 inches.

*Hab.* PANAMA, Volcan de Chiriqui 4000 feet (*Champion*).

One specimen.

## ACROSEMIA (II. p. 23).

2. **Acrosemia ochrolaria**.

*Acrosemia ochrolaria*, Schaus, Journ. New York Ent. Soc. v. p. 163 (1897)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).

3. **Acrosemia undilinea**. (Tab. XCVIII. fig. 22, ♂.)

*Acrosemia undilinea*, Warren, Novit. Zool. iv. p. 486 (1897)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*<sup>1</sup>).

The sexes of this species are very similar. We figure a male from Jalapa.

4. **Acrosemia crocallinaria**.

*Azelina crocallinaria*, Oberth. Etudes Ent. vii. p. 21, t. 3. fig. 5 (1883)<sup>1</sup>.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*).—COLOMBIA, Antioquia; PERU, Tambillo<sup>1</sup>.

## IRA (II. p. 23).

**Ira bendiata** (II. p. 24).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*), Volcan de Irazu (*Rogers*).

## OXYDIA (II. p. 25).

**Oxydia apidania** (II. p. 26). (Tab. XCVIII. fig. 4, ♂, var. *bicolor*.)

*Microgonia apidania*, ab. *bicolor*, Warren, Novit. Zool. iv. p. 495 (1897) <sup>1</sup>.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood* <sup>1</sup>).

Mr. Warren's type is figured.

3 (A). **Oxydia unicolor**, sp. n. (Tab. XCVIII. fig. 6, ♂.)

*Male*. Primaries and secondaries dark greyish-brown, each crossed by a narrow reddish-brown line, the primaries with a pale yellowish-brown spot close to the anal angle, the fringe dark brown; the underside of both wings dark brown, with the line very indistinct: head, antennæ, thorax, and abdomen dark brown. Expanse  $2\frac{3}{4}$  inches.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*).

One specimen.

**Oxydia platypterata** (II. p. 27).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

**Oxydia medona** (II. p. 28). (Tab. XCVIII. fig. 5, ♂.)

*Herbita* (?) *transversata*, Warren, Novit. Zool. iv. p. 493 (1897) <sup>1</sup>.

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood* <sup>1</sup>).

This species varies in colour from dark reddish-brown to pale yellow. We now figure a male, lately described by Mr. Warren under another name, from Costa Rica.

## DREPANODES (II. p. 29).

**Drepanodes pionaria** (II. p. 29).

To the localities given, add:—COSTA RICA, La Uruca, San José (*coll. Dognin*).

**Drepanodes falcularia** (II. p. 30).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

## FALCINODES (II. p. 32).

**Falcinodes glauca** (II. p. 33).

To the localities given, add:—GUATEMALA (*Rodriguez, in mus. D.*).

## CRATOPTERA (II. p. 34).

5. *Cratoptera* (?) *illecta*, sp. n. (Tab. XCVIII. fig. 7, ♀.)

*Female*. Primaries and secondaries dark reddish-brown, striated with greyish-white scales, a narrow white line crossing both wings, the primaries with several dark brown spots on the outer margin near the apex, the fringe dark brown; the underside of both wings considerably paler than above, and without the greyish-white line: head, thorax, and abdomen dark reddish-brown. Expanse  $1\frac{1}{4}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

## APICIA (II. p. 38).

15. *Apicia divalis*, sp. n. (Tab. XCVIII. figg. 8, ♂; 9, ♀.)

*Male*. Primaries and secondaries pale yellow; the primaries with the costal margin and the base almost to the middle irrorated with reddish-brown scales, a reddish-brown spot on the costal margin near the apex, and a reddish-brown line extending from the middle of the inner margin almost to the apex, but not reaching it; the secondaries crossed about the middle from the costal to the inner margin by a reddish-brown line; the fringe of both wings yellowish-brown: head, thorax, abdomen, and legs yellowish-brown, the antennæ reddish-brown.—*Female*. Very similar to the male, but with the outer half of the wings reddish-brown. Expanse, ♂ ♀,  $1\frac{1}{10}$  inch.

*Hab.* GUATEMALA, Senahu in Vera Paz (*Champion*).

Two specimens.

16. *Apicia pomella*, sp. n. (Tab. XCVIII. fig. 10, ♂.)

*Male*. Primaries yellowish-green, crossed from the costal to the inner margin by three faint brownish-green lines, and with four black spots along the costal margin and a dark brownish mark about the middle of the inner margin; secondaries pale chrome-yellow, crossed about the middle by a pale brown line, the fringe yellow; the underside of both wings pale brownish-yellow, striated with very fine brown lines: head, thorax, and tegulæ yellowish-green, the antennæ dark brown, the abdomen yellow. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Venta de Zopilote in Guerrero 2800 feet (*H. H. Smith*).

One specimen, captured in October.

## EPIONE (II. p. 43).

4. *Epione cinerea*.

*Epione cinerea*, Schaus, Journ. New York Ent. Soc. v. p. 163 (1897) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus* <sup>1</sup>).

## SICYA (II. p. 45).

8. *Sicya* (?) *hepburni*, sp. n. (Tab. XCVIII. fig. 12, ♂.)

*Male*. Primaries pale greenish-brown, with a wide reddish-brown streak extending from the inner margin near the anal angle to the end of the cell; secondaries pale reddish-brown: head and thorax greenish-brown, the antennæ black, the abdomen and legs reddish-brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Santa Ana in Chihuahua, below El Tribo (*Buchan-Hepburn*).

One specimen.



9. **Sicya (?) sirra**, sp. n. (Tab. XCVIII. fig. 13, ♂.)

*Male*. Primaries pale greenish-brown, broadly bordered from the apex to the anal angle with darker brown, the fringe brown; secondaries cream-colour, brownish round the outer margin, with a narrow brown line crossing the wing from near the apex to the inner margin: head and thorax greenish-brown, the antennæ black. Expanse  $1\frac{4}{10}$  inch.

*Hab.* MEXICO, Northern Sonora (*Morrison*).

One specimen.

ACROTOMIA (II. p. 47).

**Acrotomia syctaria** (II. p. 48).

*Eusarca subfasciata*, Warren, Novit. Zool. iv. p. 491 (1897)<sup>1</sup>.

*Eusarca subfasciata*, ab. *maculata*, Warren, loc. cit.<sup>2</sup>.

I cannot separate either of the insects described by Mr. Warren from *A. syctaria*, Walk.: on the underside they are identical. They are both from Costa Rica<sup>1 2</sup>, whence I have already recorded the species.

THERINA (II. p. 50).

**Therina betala** (II. p. 50).

To the locality given, add :—COSTA RICA, Candelaria Mts. (*Underwood*).

**Therina seminudata** (II. p. 51).

To the localities given, add :—COSTA RICA, Candelaria Mts. (*Underwood*).

LEUCULA (II. p. 52).

**Leucula ablinearia** (II. p. 52).

To the localities given, add :—COSTA RICA, Candelaria Mts. (*Underwood*).

**Leucula meganira** (II. p. 52).

To the localities given, add :—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

TETRACIS (II. p. 54).

**Tetracis azonax** (II. p. 54).

*Tetracis rivulata*, Warren, Novit. Zool. iv. p. 506 (1897)<sup>1</sup>.

Mr. Warren's type of *T. rivulata* is a little browner in colour than our specimens from Guatemala, but those from the Volcan de Irazu are very similar. It is from Costa Rica<sup>1</sup>, whence I have already recorded the insect.

ANISOPERAS (to follow the genus *Hygrochroma*, II. p. 60).

*Anisoperas*, Warren, Novit. Zool. ii. p. 137 (1895).

1. *Anisoperas subfulvata*. (Tab. XCVIII. fig. 11.)

*Anisoperas subfulvata*, Warren, Novit. Zool. iv. p. 487 (1897)<sup>1</sup>.

*Hab.* GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); COSTA RICA, Candelaria Mts. (*Underwood*<sup>1</sup>).

We figure a Guatemalan specimen, which is a little more brightly coloured than the type.

2. *Anisoperas catops*, sp. n. (Tab. XCVIII. fig. 14, ♂.)

*Male.* Primaries and secondaries dark brown, with a yellowish shade about the middle of both wings; the primaries crossed about the centre from the costal to the inner margin by two darker brown lines, and with an indistinct greyish-brown spot at the apex; the secondaries crossed below the middle by a narrow dark brown line, which extends from the costal margin near the apex to the middle of the inner margin, and with several very indistinct brown spots near the anal angle; the fringe dark brown; the underside of both wings bright brownish-yellow, with the lines much more distinct than above, the outer margins greyish-brown: head, antennæ, thorax, and abdomen dark brown above, brownish-yellow beneath. Expanse  $1\frac{1}{2}$  inch.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*), Volcan de Irazu 6000 feet (*Rogers*).

This species is allied to *A. subfulvata*, Warr.

3. *Anisoperas dolens*, sp. n. (Tab. XCVIII. fig. 15, ♂.)

*Male.* Primaries and secondaries dark greyish-brown; the primaries crossed from the costal to the inner margin by two waved darker brown lines—the first near the base, the second beyond the middle,—and with a faint submarginal waved line extending from near the apex to the anal angle; the secondaries crossed below the middle by a waved brown line, and with the submarginal line very indistinct; the fringe dark brown; the underside of both wings dull greyish-brown, with the lines very indistinct: head, antennæ, thorax, abdomen, and legs greyish-brown. Expanse  $1\frac{3}{10}$  inch.

*Hab.* MEXICO, Cordova (*Rümeli*), Jalapa (*coll. Schaus*); GUATEMALA, Las Mercedes, San Isidro, Volcan de Atitlan, Zapote, Senahu (*Champion*); COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe*), Volcan de Chiriqui 4000 feet (*Champion*), Panama city (*J. J. Walker*).

Varies considerably, both in colour and in the distinctness of the markings. We figure a male from Zapote.

4. *Anisoperas lurida*, sp. n. (Tab. XCVIII. fig. 16, ♂.)

*Male.* Primaries and secondaries greyish-brown; the primaries crossed from the costal to the inner margin by two darker brown lines, edged with grey—the first near the base, almost straight, the second beyond the middle, much curved from the apex to the anal angle,—and with a zigzag indistinct submarginal line extending from the apex to the anal angle, the fringe dark brown; the secondaries crossed about the middle from the costal margin to the anal angle by a narrow dark brown line, which is edged on the outer side with greyish-white scales, and with a marginal row of very small white dots extending from

near the apex to the anal angle, the fringe dark brown; the underside greyish-brown, with the lines very indistinct: head, antennæ, thorax, abdomen, and legs greyish-brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

5. **Anisoperas jodea**, sp. n. (Tab. XCVIII. fig. 17.)

Primaries and secondaries pale reddish-brown, with the outer margins broadly bordered with darker brown; the primaries crossed from the costal to the inner margin by two rather wide dark brown lines—the first near the base, almost straight, the second beyond the cell, waved,—the discal spot dark brown; the secondaries with a central dark brown line extending from the costal to the inner margin; the fringe of both wings dark brown; the underside greyish-brown, without markings: head, antennæ, thorax, abdomen, and legs reddish-brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Coatepec (*Brooks*); GUATEMALA, Calderas (*Champion*).

A very variable species. We figure a specimen from Jalapa.

6. **Anisoperas vesta**, sp. n. (Tab. XCVIII. fig. 18, ♂.)

*Male.* Primaries and secondaries pale brown, both wings with a greenish-grey submarginal line extending from the apex to the anal angle; the primaries crossed from the costal to the inner margin by two wide dark brown bands—the first towards the base, the second at the end of the cell; the secondaries shaded with dark brown about the middle; the fringe pale brown: head, antennæ, and thorax dark brown, the abdomen pale brown.—*Female.* Very similar to the male. Expanse, ♂ ♀,  $1\frac{1}{2}$  inch.

*Hab.* GUATEMALA, Purula, Las Mercedes (*Champion*).

We figure a male from Las Mercedes. Allied to *A. jodea*, but differing from it in having a submarginal line on both wings.

7. **Anisoperas urota**, sp. n. (Tab. XCVIII. fig. 19, ♀.)

*Female.* Primaries and secondaries dark reddish-brown; the primaries crossed near the base by a row of three greyish-white spots, and with a rather large similarly coloured spot, with a black dot in the middle, at the end of the cell, and a submarginal row of large greyish-white spots extending from the apex to the anal angle, the fringe reddish-brown; the secondaries with similar greyish-white spots; the underside reddish-brown, with the discal spot black: head, antennæ, thorax, abdomen, and legs dark reddish-brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 2500 to 3000 feet (*Champion*).

Three specimens.

AZELINA (II. p. 60).

**Azelina saturata** (II. p. 60).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*), Orizaba (*Boucard, in mus. D.*).

**Azelina polygonaria** (II. p. 65).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*)



24. **Azelina amanda**, sp. n. (Tab. XCVIII. fig. 20, ♂.)

*Male*. Primaries and secondaries pale fawn-colour; the primaries crossed beyond the middle by two narrow dark brown lines edged on the outer side with dark grey, and with a black dot at the end of the cell, and a broken greyish-black band partly crossing the wing from the inner margin; the secondaries with the inner margin and anal angle irrorated with black and grey scales; the fringe fawn-colour; the underside pale fawn-colour, the submarginal line of both wings white, the apex of the primaries and the outer margin of the secondaries broadly bordered with reddish-brown: head, antennæ, thorax, and abdomen pale fawn-colour.—*Female*. Very similar to the male. Expanse 2 inches.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

Two specimens.

## CROCALLIS (II. p. 67).

**Crocallis newmannaria** (II. p. 67).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*).

## AMPHIDASIS (II. p. 70).

**Amphidasis arnobia** (II. p. 71).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

3. **Amphidasis charon**, sp. n. (Tab. XCVIII. figg. 23, ♀; 24, ♂.)

*Male*. Primaries and secondaries dark brown, irrorated with black scales; the primaries crossed from the costal to the inner margin by two black lines—the first near the base, the second beyond the cell,—the fringe dark brown; the secondaries crossed below the middle by three blackish-brown waved lines, the central one the most distinct; the underside of both wings blackish-brown: head, thorax, abdomen, and legs dark brown, the antennæ black.—*Female*. Primaries and secondaries greyish-white, thickly irrorated with brown and black scales; the primaries crossed from the costal to the inner margin by two waved black lines—the first near the base, the second beyond the middle,—and with a rather large black spot close to the base, the outer margin broadly shaded with pale brown; the secondaries broadly bordered with dark grey; the underside paler than above and not so distinctly marked: head, thorax, and abdomen greyish-white, the antennæ black. Expanse, ♂ 2, ♀ 1¾ inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

Two specimens.

4. **Amphidasis undulosa**, sp. n. (Tab. XCVIII. fig. 26, ♂.)

*Male*. Primaries and secondaries greyish-white, thickly irrorated with reddish-brown scales, and crossed with fine black lines edged with white; the underside white, the primaries with a large black spot at the apex: head, antennæ, and thorax dark brown, the abdomen greyish-white. Expanse 2 inches.

*Hab.* MEXICO, Orizaba (*Boucard, in mus. D.*).

One specimen.

## BOARMIA (II. p. 72).

18. **Boarmia orizabaria**.

*Boarmia orizabaria*, Schaus, Journ. New York Ent. Soc. v. p. 164 (1897)<sup>1</sup>.

*Hab.* MEXICO, Orizaba (*coll. Schaus*<sup>1</sup>).

19. **Boarmia aztecaria.**

*Boarmia aztecaria*, Schaus, Journ. New York Ent. Soc. v. p. 165 (1897) <sup>1</sup>.

*Hab.* MEXICO, Orizaba, Oaxaca (*coll. Schaus* <sup>1</sup>).

20. **Boarmia minuta**, sp. n. (Tab. XCVIII. fig. 25, ♂.)

*Male.* Primaries and secondaries white, slightly irrorated with small grey scales, the primaries with three dark grey spots on the costal margin and a larger round dark greyish spot about the middle of the outer margin: head, thorax, and abdomen grey, the antennæ blackish.—*Female.* Very similar to the male, but with simple antennæ. Expanse  $\frac{3}{4}$  inch.

*Hab.* PANAMA, Bugaba, Volcan de Chiriqui (*Champion*).

Some specimens are more distinctly marked than others.

## TEPHROSIA (II. p. 76).

**Tephrosia azenia** (II. p. 77).

To the localities given, add:—COSTA RICA, Caché (*Rogers*), Candelaria Mts. (*Underwood*).

8. **Tephrosia (?) lineata**, sp. n. (Tab. XCIX. fig. 2, ♂.)

*Male.* Primaries and secondaries pale brownish-fawn-colour, irrorated with minute black scales, the discal spot on both wings black; the primaries crossed from the costal to the inner margin by two waved brownish-black lines, beyond which, crossing the wing from the apex to the inner margin, is a row of black dots edged on the outer side with white, this being continued across the secondaries; the fringe pale fawn-colour; the underside pale fawn-colour, almost without markings: head, antennæ, thorax, abdomen, and legs pale brownish-fawn-colour. Expanse 2 inches.

*Hab.* GUATEMALA, Totonicapan 8500 feet (*Champion*).

One specimen.

## BRYOPTERA (II. p. 80).

3. **Bryoptera (?) lymax**, sp. n. (Tab. XCVIII. fig. 21, ♀.)

*Female.* Primaries dark blackish-grey, thickly irrorated with white scales, the costal margin broadly bordered with white from the base to the apex, and with some small black dots upon the white margin, the fringe dark grey; secondaries white, irrorated with black scales at the apex and round the outer margin, the fringe black and white: head white, the thorax and abdomen blackish-grey, the legs grey, the antennæ black. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO city (*Höge*).

## BRONCHELIA (II. p. 80).

**Bronchelia subroraria** (II. p. 81).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

**Bronchelia conjugaria** (II. p. 81).

To the localities given, add:—NICARAGUA, Matagalpa (*Richardson*).

**Bronchelia detexta** (II. p. 82).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

## NEMORIA (II. p. 84).

5. *Nemoria masonaria*.

*Nemoria masonaria*, Schaus, Journ. New York Ent. Soc. v. p. 161 (1897)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*Mason*<sup>1</sup>).

6. *Nemoria* (?) *unifasciata*, sp. n. (Tab. XCIX. fig. 1, ♀.)

*Female.* Primaries and secondaries greenish-white; the primaries with the costal margin yellowish, a yellowish-brown line edged with white on the outer side crossing the wing beyond the middle from the costal to the inner margin, this band being continued across the secondaries to the middle of the inner margin: head, antennæ, thorax, and abdomen yellowish-brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Omilteme in Guerrero 8000 feet (*H. H. Smith*).

The Jalapa specimen is figured.

GELASMA (to follow the genus *Iodis*, II. p. 86).

*Gelasma*, Warren, P. Z. S. 1893, p. 352.

1. *Gelasma albidata*. (Tab. XCIX. fig. 3, ♀.)

*Gelasma albidata*, Warren, Novit. Zool. iv. p. 425 (1897)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*<sup>1</sup>).

A specimen from Jalapa is figured.

## RACHEOSPILA (II. p. 89).

*Racheospila astræa* (II. p. 90).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*).

16. *Racheospila jucunda*?

*Racheospila jucunda*, Feld. & Rogenh. Reise der Novara, Lep. t. 127. fig. 18<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).—AMAZONS<sup>1</sup>.

Two specimens, in poor condition, very similar to Felder and Rogenhofer's figure.

17. *Racheospila splendens*, sp. n. (Tab. XCIX. fig. 4, ♂.)

*Male.* Primaries greenish-hyaline-white, with a small reddish-brown spot on the inner margin close to the base, and a minute dot at the end of the cell, the outer margin from the apex to the anal angle broadly bordered with cream-colour, shaded with reddish-brown and white; secondaries greenish-hyaline-white, the base and a large spot on the middle of the inner margin reddish-brown, the outer margin from the apex to the anal angle cream-colour, shaded with reddish-brown, dark at the apex, where it is shaded with grey, the marginal line dark brown; the fringe of both wings cream-colour: head and thorax pale brown, the antennæ and abdomen reddish-brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

One specimen. A very distinct species, not closely allied to any other belonging to the genus.



## MECOCERAS (II. p. 94).

**Mecoceras nitocris** (II. p. 94).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

**Mecoceras aulis** (II. p. 95).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

## OPHTHALMOPHORA (II. p. 95).

**Ophthalmophora prospectata** (II. p. 95).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

**Ophthalmophora melæ** (II. p. 96).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

APLOGOMPHA (to follow the genus *Ophthalmophora*, II. p. 98).

*Aplogompha*, Warren, Novit. Zool. iv. p. 459 (1897).

1. **Aplogompha chotaria**.

*Aplogompha chotaria*, Schaus, Journ. New York Ent. Soc. vi. p. 145 (1898)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>, *M. Trujillo*).—VENEZUELA, Aroa.

One specimen, agreeing with Mr. Schaus's description.

## BYSSODES (II. p. 98).

**Byssodes privignaria** (II. p. 98).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

## PITYEJA (II. p. 100).

2. **Pityeja picta**.

*Pityeja picta*, Schaus, Journ. New York Ent. Soc. vi. p. 145 (1898)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).

## EPHYRA (II. p. 101).

6. **Ephyra obscura**, sp. n. (Tab. XCIX. fig. 6, ♂.)

*Male*. Primaries and secondaries brownish-grey, thickly irrorated with minute brown scales, both wings with a small greyish-white spot at the end of the cell; the primaries with two brown spots close to the apex: head, antennæ, thorax, abdomen, and legs greyish-brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*), Durango city (*Becker*).

A specimen from Presidio is figured.

EUEPHYRA (to follow the genus *Ephyra*, II. p. 102).

*Euephyra*, Packard, Fifth Ann. Rep. Peab. Acad. Sci. p. 73 (1873); Report of U.S. Geol. Surv. Territ. x. p. 365, t. 4. fig. 5 (neurulation) (1876).

1. *Euephyra albidiscata*.

*Euephyra albidiscata*, Warren, Novit. Zool. iv. p. 438 (1897) <sup>1</sup>.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood* <sup>1</sup>).

The type of this species is in such worn condition that it can hardly be recognized, much less figured.

## ANISODES (II. p. 102).

*Anisodes globaria* (II. p. 103).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

10. *Anisodes chaon*, sp. n. (Tab. XCIX. fig. 5, ♂.)

*Male.* Primaries and secondaries pale brownish-fawn-colour, both wings with a submarginal zigzag greyish-white line, in some parts almost broken into spots, the primaries also with a similar line close to the base, the fringe pale fawn-colour; the underside as above, but much paler, and with the greyish-white lines replaced by minute black dots: head, antennæ, thorax, and abdomen pale brownish-fawn-colour. Expanse  $1\frac{1}{4}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 2000 feet (*Champion*).

One specimen.

11. *Anisodes beon*, sp. n. (Tab. XCIX. fig. 7, ♀.)

*Female.* Primaries and secondaries pale fawn-colour, thickly irrorated with darker scales, a large greyish spot on the primaries near the apex extending along the outer margin almost to the anal angle, the fringe of both wings greyish: head, antennæ, thorax, and abdomen pale brown. Expanse 1 inch.

*Hab.* PANAMA, Volcan de Chiriqui 2000 feet (*Champion*).

One specimen.

12. *Anisodes albocostata*, sp. n. (Tab. XCIX. fig. 8.)

Primaries and secondaries pale reddish-brown, darker round the outer margins; the primaries with the costal margin from the base to the apex broadly bordered with white, two narrow brown lines edged with grey crossing the wing from the costal to the inner margin—the first near the base, the second beyond the cell,—a dark brown line at the end of the cell, and a waved submarginal line extending from near the apex to the inner margin close to the anal angle, the ends of the veins spotted with black, the fringe reddish-brown; the secondaries crossed about the middle by a dark brown line edged with grey on the outer side, the veins with black points as on the primaries; the underside very much paler than above, and without the white costal margin to the primaries or the lines crossing the wings. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

Several specimens.

13. *Anisodes* (?) *osteria*, sp. n. (Tab. XCIX. fig. 9, ♀.)

*Female.* Primaries and secondaries reddish-fawn-colour, paler at the base; the primaries crossed from the costal to the inner margin by three darker brown lines, the outer line being somewhat indistinct;

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the secondaries crossed from the costal to the inner margin by two dark brown lines; the fringe reddish-fawn-colour; the underside much paler than above, and without the lines crossing the wings: head, antennæ, thorax, and abdomen reddish-fawn-colour. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*).

Two specimens.

14. *Anisodes* (?) *sobrina*, sp. n. (Tab. XCIX. figg. 10, ♂; 11, ♀.)

*Male.* Primaries and secondaries brown; the primaries crossed from the costal to the inner margin by two reddish-brown lines edged on the outer side with yellow—the first line near the base, the second beyond the middle,—and with a blackish streak at the end of the cell, and a very faint submarginal zigzag line extending from the apex to the anal angle, the marginal line reddish-brown; the secondaries crossed below the middle from the costal margin near the apex to the anal angle by a reddish-brown line edged on the outer side with yellow; the fringe reddish-brown; the underside much paler than above, and without the lines crossing the wings: head, antennæ, thorax, and abdomen reddish-brown, the abdomen with a central yellow line extending from the base to the anus.—*Female.* Very similar to the male, but paler in colour, and with all the lines crossing the wings blackish-brown. Expanse, ♂  $1\frac{1}{4}$ , ♀  $1\frac{1}{10}$  inch.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

One pair.

15. *Anisodes* (?) *miniata*, sp. n. (Tab. XCIX. fig. 12, ♂.)

*Male.* Primaries and secondaries dark purplish-brown; the primaries crossed from the costal to the inner margin by two fine yellow lines—the first near the base, the second beyond the middle,—and with a yellowish streak at the end of the cell; the secondaries crossed below the middle from the costal to the inner margin by a fine yellow line; the fringes of both wings dark purplish-brown; the underside much paler than above, with the lines crossing the wings very faint, the inner margin of the secondaries greyish: head, antennæ, thorax, and abdomen dark purplish-brown. Expanse  $1\frac{1}{10}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

Two males. This species is very like *A. sobrina*, but the lines on the wings are in an entirely different position.

ASELLODES (II. p. 105).

*Asellodes fenestraria* (II. p. 105).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*).

TRYGODES (II. p. 105).

*Trygodes auxesia* (II. p. 108).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

EOIS (II. p. 108).

*Eois pyraustaria* (II. p. 108).

To the localities given, add:—MEXICO, Teapa in Tabasco (*H. H. Smith*).

*Eois fagenaria* (II. p. 109).

To the localities given, add:—COSTA RICA, Santa Clara Valley 1200 feet (*Zürcher*).



13. *Eois albipunctata*, sp. n. (Tab. XCIX. fig. 14, ♀.)

*Female*. Primaries brownish-fawn-colour, crossed about the middle from the cell to the inner margin by a rather wide reddish-orange-coloured band, and with a large triangular silvery-white spot at the end of the cell, and two fine submarginal reddish-brown lines extending from near the apex to the middle of the inner margin, the outer margin and fringe from the apex to the anal angle bright yellow; secondaries brownish-fawn-colour, with a large silvery-white triangular spot close to the base surrounded by reddish-orange lines, the outer margin and fringe bright yellow: head, antennæ, thorax, and abdomen brownish-fawn-colour. Expanse  $\frac{3}{4}$  inch.

*Hab.* PANAMA, Bugaba (*Champion*).

One specimen. This insect may be at once distinguished from all the other described species known to me by the silvery-white spots on the wings.

DOCHEPHORA (to follow the genus *Cambogia*, II. p. 115).

*Dochephora*, Warren, Novit. Zool. ii. p. 108 (1895).

1. *Dochephora pilosa*. (Tab. XCIX. fig. 15, ♂.)

*Dochephora pilosa*, Warren, Novit. Zool. iv. p. 449 (1897)<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*<sup>1</sup>).

We figure a male from Jalapa.

## ASTHENA (II. p. 115).

3. *Asthena* (?) *tharossa*, sp. n. (Tab. XCIX. fig. 16.)

Primaries and secondaries pale fawn-colour, crossed about the middle by two very indistinct brownish waved lines, both wings with a submarginal row of very minute black dots and a small black dot at the end of the cell: head, antennæ, thorax, and abdomen fawn-colour. Expanse  $\frac{3}{4}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 4000 feet (*Champion*).

One specimen.

4. *Asthena* (?) *malvina*, sp. n. (Tab. XCIX. fig. 13, ♂.)

*Male*. Primaries and secondaries pale fawn-colour; the primaries crossed from the costal to the inner margin by three yellowish-brown lines—the first and third zigzag, the second broad and at about the middle of the wing,—and with a small white streak at the end of the cell and a large ill-defined blackish spot on the inner margin close to the anal angle, the fringe yellowish-fawn-colour; the secondaries crossed by two faint lines, the fringe yellowish: head, antennæ, thorax, and abdomen fawn-colour. Expanse 1 inch.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*); PANAMA, Bugaba (*Champion*).

The Bugaba specimen is figured.

5. *Asthena* (?) *sylvia*, sp. n. (Tab. XCIX. fig. 17.)

Primaries and secondaries pale greyish-fawn-colour, irrorated with reddish-brown scales; the primaries with a reddish-brown spot on the outer margin below the apex and a small white spot at the end of the cell; the secondaries crossed by two dark reddish-brown waved lines, the outer half of the wing thickly

irrorated with reddish-brown scales: head, antennæ, thorax, and legs pale fawn-colour (the abdomen wanting). Expanse 1 inch.

*Hab.* MEXICO, La Venta in Guerrero 800 feet (*H. H. Smith*).

One specimen.

#### ACIDALIA (II. p. 115).

##### ***Acidalia umbilicata*** (II. p. 116).

*Acidalia nigroapicata*, Thierry-Mieg, *Le Naturaliste*, 1892, p. 235<sup>1</sup>.

The types of *A. nigroapicata*, Thierry-Mieg, were from Chiriqui<sup>1</sup>, whence I have already recorded this species.

##### 13. ***Acidalia minuscula***.

*Acidalia minuscula*, Thierry-Mieg, *Le Naturaliste*, 1892, p. 235 (Oct. 1st)<sup>1</sup>.

*Acidalia carna*, *antea*, ii. p. 118 (Nov. 1892).

M. Thierry-Mieg's name has one month's priority. His types were also from Chiriqui<sup>1</sup>.

##### ***Acidalia retractaria*** (II. p. 121).

To the localities given, add:—GUATEMALA, Dueñas, Volcan de Atitlan (*Champion*).

##### 34. ***Acidalia abornata***, var. ***candida***.

*Craspedia abornata*, ab. *candida*, Warren, *Novit. Zool.* iv. p. 432 (1897)<sup>1</sup>.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*<sup>1</sup>).

#### ORUDIZA (II. p. 124).

##### ***Orudiza placidaria*** (II. p. 124).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*).

#### EPIPLEMA (II. p. 125).

##### ***Epiplema birostrata*** (II. p. 125).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

#### EROSIA (II. p. 125).

##### 15. ***Erosia* (?) *imella***, sp. n. (Tab. XCIX. fig. 18, ♀.)

*Female*. Primaries and secondaries brown; the primaries crossed from the costal to the inner margin by two narrow reddish-brown lines—the first near the base, the second beyond the middle, the latter continued across the middle of the secondaries; the marginal line of both wings dark brown, the fringe greyish-brown; the underside as above, but with the lines very indistinct. Expanse 1 inch.

*Hab.* GUATEMALA, San Gerónimo (*Champion*).

One specimen.

## SCHIDAX (II. p. 128).

**Schidax squammaria** (II. p. 128).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

## SEMIOTHISA (II. p. 129).

**Semiothisa stimulata** (II. p. 129).

To the localities given, add:—COSTA RICA, Candelaria Mts. (*Underwood*).

**Semiothisa carpo** (II. p. 130).

*Semiothisa fidelis*, Warren, Novit. Zool. iv. p. 479 (1897) <sup>1</sup>.

Mr. Warren's types of *S. fidelis* were from Costa Rica <sup>1</sup>, whence I have already recorded the species.

**Semiothisa acutaria** (II. p. 133).

To the localities given, add:—GUATEMALA, in the city (*Rodriguez, in mus. D.*); COSTA RICA, Candelaria Mts. (*Underwood*).

**Semiothisa agrammata** (II. p. 133).

To the localities given, add:—GUATEMALA, in the city (*Rodriguez, in mus. D.*).

20. **Semiothisa masonata**.

*Semiothisa masonata*, Schaus, Journ. New York Ent. Soc. v. p. 163 (1897) <sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus* <sup>1</sup>).

21. **Semiothisa oaxacana**.

*Semiothisa oaxacana*, Schaus, Journ. New York Ent. Soc. vi. p. 146 (1898) <sup>1</sup>.

*Hab.* MEXICO, Oaxaca (*coll. Schaus* <sup>1</sup>).

TEPHRINA (to precede the genus *Thamnonoma*, II. p. 134).

*Tephрина*, Guenée, Sp. gén. des Lép. x. p. 96 (1857); Walker, Cat. xxiii. p. 951.

1. **Tephрина submarcata**.

*Tephрина submarcata*, Schaus, Journ. New York Ent. Soc. vi. p. 149 (1898) <sup>1</sup>.

*Hab.* MEXICO, Guadalajara (*coll. Schaus* <sup>1</sup>).

2. **Tephрина griseata**.

*Tephрина griseata*, Schaus, Journ. New York Ent. Soc. vi. p. 149 (1898) <sup>1</sup>.

*Hab.* MEXICO, Jalapa, Oaxaca (*coll. Schaus* <sup>1</sup>).

3. **Tephрина guararana**.

*Tephрина guararana*, Schaus, Journ. New York Ent. Soc. vi. p. 149 (1898) <sup>1</sup>.

*Hab.* MEXICO, Oaxaca, Guadalajara (*coll. Schaus* <sup>1</sup>).



## PACHYDIA (II. p. 135).

**Pachydia abdominaria** (II. p. 135).

*Perissopteryx delusa*, Warren, Novit. Zool. iv. p. 477 (1897) <sup>1</sup>.

To the localities given, add :—COSTA RICA, Candelaria Mts. (*Underwood* <sup>1</sup>).

9. **Pachydia nigricticta**. (Tab. XCIX. fig. 20.)

*Thysanopyga nigricticta*, Warren, Novit. Zool. iv. p. 477 (1897) <sup>1</sup>.

*Hab.* MEXICO, Teapa (*H. H. Smith*); COSTA RICA, Candelaria Mts. (*Underwood* <sup>1</sup>), Volcan de Irazu (*Rogers*).

A specimen from the Volcan de Irazu is figured.

## GORYTODES (II. p. 138).

3. **Gorytodes (?) mexicana**, sp. n. (Tab. XCIX. fig. 19, ♂.)

*Male.* Primaries and secondaries greyish-brown; the primaries crossed beyond the middle from the costal to the inner margin by a narrow darker brown line, and with a small black dot at the end of the cell, the fringe of both wings greyish; head, thorax, and abdomen greyish-brown, the antennæ blackish-brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* MEXICO, Bolaños in Jalisco (*Richardson*).

One specimen.

## LEPIODES (II. p. 148).

3. **Lepiodes (?) maxima**, sp. n. (Tab. XCIX. fig. 21.)

*Female.* Primaries reddish-brown, crossed about the middle by a wide greyish-black band which is edged on both sides with greyish scales, a black spot at the end of the cell, the fringe greyish-brown; secondaries pale greyish-brown, darker at the anal angle; head, thorax, abdomen, and legs greyish-brown, the antennæ black. Expanse  $1\frac{1}{4}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 2000–3000 feet (*Champion*).

Two specimens, one much darker than the other.

4. **Lepiodes (?) unicolor**, sp. n. (Tab. XCIX. fig. 22.)

*Male.* Primaries and secondaries pale brownish-grey, each with a round blackish spot at the end of the cell; head, thorax, abdomen, and legs grey, the antennæ blackish-brown.—*Female.* Similar to the male, but much larger. Expanse, ♂  $1\frac{1}{2}$ , ♀ 2 inches.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*).

5. **Lepiodes (?) punctata**, sp. n. (Tab. XCIX. fig. 23, ♂.)

*Male.* Primaries and secondaries dark brown; the primaries with a raised tuft of black scales at the end of the cell, beyond which a fine black line crosses the wing from the costal to the inner margin; head, thorax, abdomen, and legs dark brown.—*Female.* Very similar to the male, but paler. Expanse, ♂ ♀,  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Jalapa (*Höge, M. Trujillo*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Volcan de Atitlan (*Champion*); COSTA RICA, Volcan de Irazu (*Rogers*).

We figure a male from Irazu.

#### CLEOMANTES (II. p. 149).

##### 1. *Cleomantes leuconotula*.

*Siculodes (Zeuzerodes) leuconotula*, Pagenst. Iris, v. p. 80, t. 1. fig. 15 (♀) (1892)<sup>1</sup>.

*Rhodoneura leuconotula*, Hampson, P. Z. S. 1897, p. 617<sup>2</sup>.

*Siculodes (Zeuzerodes) fumatilis*, Pagenst. Iris, v. p. 81 (♂)<sup>3</sup> (part.).

*Rhodoneura fumatilis*, Hampson, P. Z. S. 1897, p. 617<sup>4</sup>.

*Cleomantes mœrens*, Druce, anteà, ii. p. 149 (May, 1893)<sup>5</sup>.

To the localities given, add :—PANAMA<sup>2 4</sup>, Chiriqui (*Trötsch, in mus. Staudinger*<sup>1 3</sup>).

I am indebted to Dr. Staudinger for sending me Pagenstecker's types for comparison. I have no doubt they are the sexes of one species. His names have nearly a year's priority over mine. The Brazilian specimens of *S. fumatilis* (♂ ♀) mentioned by him probably belong to a different species.

#### LARENTIA (II. p. 150).

##### 6. *Larentia narosa*, sp. n. (Tab. XCIX. fig. 24.)

*Female*. Primaries pale greyish-white, crossed beyond the middle from the costal to the inner margin by two pale brown bands—the first, at the end of the cell, with several small black points; secondaries very pale fawn-colour: head, thorax, abdomen, and legs greyish-brown, the antennæ grey. Expanse 1 inch.

*Hab.* MEXICO, Northern Sonora (*Morrison*).

One specimen.

#### HETERUSIA (II. p. 151).

##### *Heterusia anicata* (II. p. 152).

To the localities given, add :—COSTA RICA, Candelaria Mts. (*Underwood*).

#### PHIBALAPTERYX (II. p. 154).

##### *Phibalapteryx effluata* (II. p. 154).

To the localities given, add :—MEXICO, Cuesta de Misantla (*M. Trujillo*).

#### SCOTOSIA (II. p. 155).

##### 2. *Scotosia gavara*, sp. n. (Tab. XCIX. fig. 25, ♂.)

*Male*. Primaries pale brownish-fawn-colour, the costal margin and a large spot at the apex much paler, several faint brown lines crossing the wing about the middle from the costal to the inner margin and a very small black dot at the end of the cell; secondaries pale fawn-colour, crossed from the costal to the inner margin by very indistinct fine waved brown lines: head, thorax, abdomen, and legs pale brownish-fawn-colour, the antennæ black.—*Female*. Very similar to the male. Expanse, ♂ ♀, 1½ inch.

*Hab.* PANAMA, Volcan de Chiriqui 2000–3000 feet (*Champion*).

## ISCHNOPTERYX (II. p. 157).

**Ischnopteryx chlorata** (II. p. 157).

To the localities given, add:—BRITISH HONDURAS, Belize (*Sir Alfred Moloney, in mus. D.*); COSTA RICA, Santa Clara Valley (*Zürcher*).

## HAMMAPTERA (II. p. 160).

**Hammaptera probataria** (II. p. 160).

*Hammaptera subolivescens*, Warren, Novit. Zool. iv. p. 453 (1897) <sup>1</sup>.

Mr. Warren's types of *H. subolivescens* were from Costa Rica and Paraguay <sup>1</sup>. I have already recorded the species from the first-mentioned locality.

**Hammaptera subguttaria** (II. p. 161).

*Hammaptera pallidipars*, Warren, Novit. Zool. iv. p. 452 (1897) <sup>1</sup>.

Mr. Warren's types of *H. pallidipars* were from Costa Rica and Colombia, whence I have already recorded the species.

RHOPALISTA (to follow the genus *Hammaptera*, II. p. 161).

*Rhopalista*, Warren, Novit. Zool. iv. p. 455 (1897).

1. **Rhopalista fulvifusa**. (Tab. XCIX. fig. 26.)

*Rhopalista fulvifusa*, Warren, Novit. Zool. iv. p. 455 <sup>1</sup>.

*Hab.* COSTA RICA (*Underwood* <sup>1</sup>).

The type is figured.

## EPIRRHOE (II. p. 165).

14. **Epirrhoe crispa**, sp. n. (Tab. XCIX. fig. 27.)

*Female*. Primaries brown, shaded with yellow at the base and beyond the cell, a zigzag fine submarginal line extending from the apex to the anal angle; secondaries bright orange, the costal margin, apex, anal angle, and inner margin broadly bordered with black: head, thorax, and abdomen yellowish-brown, the latter near the apex and the antennæ black, the legs yellowish-brown. Expanse  $1\frac{1}{2}$  inch.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*).

One specimen.

## PSALIODES (II. p. 170).

21. **Psaliodes myxa**, sp. n. (Tab. XCIX. fig. 28.)

*Male*. Primaries dark brown, with two silvery-white dots on the costal margin—the first near the base, the second nearest the apex,—and with a silvery-white spot on the inner margin close to the base; secondaries paler brown; the fringe of both wings alternately dark brown and white: head, antennæ, thorax, abdomen, and legs dark brown. Expanse 1 inch.

*Hab.* COSTA RICA, Candelaria Mts. (*Underwood*).



HERDONIA (to precede the genus *Rhodoneura*, II. p. 184).

*Herdonia*, Walker, Cat. xix. p. 963 (1859); Hampson, P. Z. S. 1897, p. 610.

1. *Herdonia thetis*, sp. n. (Tab. C. fig. 1.)

Primaries creamy-white, faintly banded with brown from the base to beyond the middle, a pale brown band extending from the costal margin near the apex to the anal angle; secondaries white, crossed from the costal to the inner margin by two brown lines—the first near the base, the second about the middle, the latter widening on the inner margin,—and with two fine brown submarginal lines extending from the apex to the anal angle: head and front of the thorax yellowish-white, the rest of the thorax, the tegulae, abdomen, and legs white, the antennae brown. Expanse  $1\frac{1}{10}$  inch.

*Hab.* MEXICO, Paso de San Juan in Vera Cruz (*coll. Schaus*).

One specimen. Allied to *H. botydana*, Walk., from Brazil, but a much paler and slightly smaller insect.

## AZAMORA (II. p. 190).

2. *Azamora lata*, sp. n. (Tab. C. fig. 2.)

Primaries pale reddish-brown, crossed from the costal to the inner margin by two narrow white lines—the first near the base, waved, the second beyond the middle, straight, shaded on the outer side with greyish-white,—and with a dark brown point at the end of the cell; secondaries creamy-white, shaded with pale reddish-brown at the apex and partly round the outer margin: head and thorax pale reddish-brown, the abdomen grey (antennae wanting). Expanse  $\frac{9}{10}$  inch.

*Hab.* COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).

One specimen.

3. *Azamora sororia*, sp. n. (Tab. C. fig. 3.)

Primaries pale reddish-brown, darker at the apex, with a rather wide greenish-yellow band edged with a white line crossing the wing near the base from the costal to the inner margin, a round spot at the end of the cell, and a curved pale brown line extending from the costal to the inner margin, the marginal line black, the fringe dark brown; secondaries uniformly pale reddish-fawn-colour: head, antennae, thorax, and abdomen pale reddish-brown, the legs pale brown. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

One specimen, apparently a female.

## TOSALE (II. p. 191).

*Tosale oviplagalis* (II. p. 192).

To the localities given, add:—PANAMA, Volcan de Chiriqui 4000 to 6000 feet (*Champion*).

TETRALOPHA (to follow the genus *Tosale*, II. p. 192).

*Tetralopha*, Zeller, Isis, 1848, p. 859.

1. *Tetralopha scortealis*.

*Hemimatia scortealis*, Leder. Wien. ent. Monatschr. vii. p. 347, t. 7. fig. 12<sup>1</sup>.

*Hab.* NORTH AMERICA<sup>1</sup>.—MEXICO, Teapa in Tabasco (*H. H. Smith*).

Our Mexican specimen is very similar to Lederer's figure.

BIOL. CENTR.-AMER., Heter., Vol. II., August 1899.

4 aa

## GALASA (II. p. 194).

**Galasa deera** (II. p. 195).

*Streptopalia deera* (Druce), Hampson, P. Z. S. 1897, p. 684, fig. 63<sup>1</sup>.

*Streptopalia ustalis*, Hampson, Ann. & Mag. Nat. Hist. (6) xvi. p. 346<sup>2</sup>; P. Z. S. 1897, p. 684<sup>3</sup>.

Sir George Hampson founded his genus *Streptopalia* upon this species; his types were from the Antillean islands of St. Vincent and Grenada<sup>3</sup>, mine from Mexico.

**3. Galasa rubidana.**

*Galasa rubidana*, Walk. Cat. xxxv. p. 1802<sup>1</sup>; Hampson, P. Z. S. 1897, p. 675<sup>2</sup>; Smith, List Lep. Bor.-Am. p. 80 (1891)<sup>3</sup>.

*Cordylopeza nigrinodis*, Zell. Verh. zool.-bot. Ges. Wien, 1873, p. 306, t. 3. fig. 3<sup>4</sup>.

*Hab.* NORTH AMERICA<sup>2-4</sup>.—COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).—JAMAICA<sup>1 2</sup>.

The single specimen received from Costa Rica is almost identical with those from Jamaica and the United States in the National Museum.

MONOLOXIS (to follow the genus *Zanclodes*, II. p. 196).

*Monoloxis*, Hampson, P. Z. S. 1897, p. 670.

**1. Monoloxis cinerascens.** (Tab. C. fig. 4.)

*Nachaba cinerascens*, Warren, Ann. & Mag. Nat. Hist. (6) vii. p. 424 (1891)<sup>1</sup>.

*Monoloxis cinerascens*, Hampson, P. Z. S. 1897, p. 670, fig. 42<sup>2</sup>.

*Hab.* PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).—BRAZIL<sup>2</sup>, Espiritu Santo<sup>1</sup>.

One specimen from Chiriqui, identical with the type in the National Collection.

**2. Monoloxis (?) diffusa**, sp. n. (Tab. C. fig. 5.)

*Male.* Primaries dark brown, slightly shaded with red at the apex and along the outer margin; secondaries paler brown, faintly shaded with red on the outer margin: head, antennæ, thorax, abdomen, and legs brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

One specimen.

ARTA (to follow the genus *Monoloxis*).

*Artâ*, Grote, Bull. Buff. Soc. ii. p. 229 (1875); Hampson, P. Z. S. 1897, p. 669.

*Heliades*, Ragonot, Ann. Soc. Ent. Fr. 1890, p. 534.

**1. Artâ statalis.**

*Artâ statalis*, Grote, Bull. Buff. Soc. ii. p. 230<sup>1</sup>; Hampson, P. Z. S. 1897, p. 669, fig. 40<sup>2</sup>.

*Artâ epicænalis*, Rag. Ann. Soc. Ent. Fr. 1890, p. 536<sup>3</sup>.

*Pempelia mulleolella*, Hulst, Ent. Amer. iii. p. 133 (1887)<sup>4</sup>.

*Hab.* NORTH AMERICA<sup>2</sup>, New York<sup>1</sup>, Arizona<sup>3</sup>, Florida<sup>4</sup>.—MEXICO, Atoyac in Vera Cruz, Teapa in Tabasco (*H. H. Smith*).



Our Mexican specimens are identical with those from North America in the National Museum.

PARACHMA (to follow the genus *Arta*).

*Parachma*, Walker, Cat. xxxiv. p. 1263 (1865); Hampson, P. Z. S. 1897, p. 659.

*Zazaca*, Walker, loc. cit. p. 1269.

*Perseis*, Ragonot, Ann. Soc. Ent. Fr. 1890, p. 538.

1. *Parachma meterythra*. (Tab. C. fig. 6.)

*Parachma meterythra*, Hampson, P. Z. S. 1897, p. 659<sup>1</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, El Tumbador (*Champion*); PANAMA, Volcan de Chiriqui (*Champion*).—BRAZIL, Espiritu Santo<sup>1</sup>.

This species varies greatly in size and colour. We figure a small dark-coloured male from Teapa.

LOCASTRA (to follow the genus *Macalla*, II. p. 198).

*Locastra*, Walker, Cat. xvi. p. 158 (1858); Hampson, Trans. Ent. Soc. Lond. 1896, p. 469.

*Homura*, Lederer, Wien. ent. Monatschr. vii. p. 339 (1863).

*Taurica*, Walker, Cat. xxxiv. p. 1268 (1865).

1. *Locastra phyalis*, sp. n. (Tab. C. fig. 7.)

Primaries very pale fawn-colour, greyish along the costal margin, with a small black dot in the middle of the cell and a black streak at the end of it, a faint white band crossing the wing near the apex, but not reaching the anal angle, and a row of small black dots along the outer margin; secondaries semihyaline-white, greyish at the apex and along the costal margin: head, antennæ, tegulæ, thorax, abdomen, and legs very pale fawn-colour. Expanse  $1\frac{1}{4}$  inch.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*).

This species is allied to *L. nocturnalis*, Leder., from Brazil. It is, however, a very much paler insect.

DEUTEROLLYTA (II. p. 199).

*Deuterollyta extensa* (II. p. 199).

To the localities given, add:—COSTA RICA, La Uruca, San José (*coll. Dognin*), Azahar de Cartago 5000 to 6000 feet (*Underwood, in Mus. D.*).

2. *Deuterollyta calitas*, sp. n. (Tab. C. fig. 8.)

*Male*. Primaries pale fawn-colour, with the apex and a band beyond the cell crossing the wing from the costal to the inner margin dark brown, a very dark brown tuft of scales in the cell, and a fine zigzag black submarginal line extending from the costal margin to the anal angle, the marginal line spotted with black; secondaries pale fawn-colour, semihyaline at the base and along the inner margin: antennæ and palpi black; the head, thorax, tegulæ, abdomen, and legs pale fawn-colour. Expanse  $1\frac{1}{4}$  inch.

*Hab.* PANAMA, Bugaba (*Champion*).

One specimen. Allied to *D. extensa*, Walk.



## POCOCERA.

*Pococera*, Zeller, Isis, 1848, p. 874; Hampson, Trans. Ent. Soc. Lond. 1896, p. 456.

*Hemimatia*, antea, ii. p. 199.

1. *Pococera robustella*.

*Hemimatia robustella*, antea, ii. p. 199.

To the localities given, add:—GUATEMALA, San Gerónimo (*Champion*); COSTA RICA, La Uruca, San José (*coll. Dognin*).

2. *Pococera insularella*.

*Tetralopha insularella*, Rag. Bull. Soc. Ent. Fr. 1888, p. cxxxviii<sup>1</sup>; Hampson, Trans. Ent. Soc. Lond. 1896, p. 459<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Candelaria Mts. (*Underwood*); ANTILLES, Puerto Rico<sup>1 2</sup>.

This species varies slightly, some specimens having the base of the primaries much darker than others.

3. *Pococera melanoleuca*.

*Pococera melanoleuca*, Hampson, Trans. Ent. Soc. Lond. 1896, p. 458<sup>1</sup>.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).—COLOMBIA<sup>1</sup>.

One specimen from Mexico, very like the type in the National Collection.

4. *Pococera atramentalis*.

*Hemimatia atramentalis*, Leder. Wien. ent. Monatschr. vii. p. 347, t. 7. fig. 14<sup>1</sup>.

*Pococera atramentalis*, Hampson, Trans. Ent. Soc. Lond. 1896, p. 458<sup>2</sup>.

*Tetralopha scabridella*, Rag. Bull. Soc. Ent. Fr. 1888, p. cxxxviii<sup>3</sup>.

*Phidotricha erigens*, Rag. loc. cit. p. cxxxix<sup>4</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); COSTA RICA, Rio Sucio (*Rogers*), Candelaria Mts. (*Underwood*).—SOUTH AMERICA<sup>2</sup>, Venezuela<sup>1</sup>; ANTILLES, Puerto Rico<sup>3 4</sup>.

5. *Pococera pemphusalis*, sp. n. (Tab. C. fig. 9.)

*Male*. Primaries pale brown, crossed about the middle from the costal to the inner margin by a wide greyish band, which becomes narrower on the costal margin, a minute black dot at the end of the cell; secondaries pale brown: head, antennæ, tegulæ, and thorax brown; the abdomen black-brown, each segment edged with white. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

One specimen.

## CAPHYS.

*Caphys*, Walker, Cat. xxvii. p. 13 (1863); Hampson, P. Z. S. 1897, p. 678.

*Ugra*, antea, ii. p. 199.

### 1. *Caphys bilinea*.

*Caphys bilinea*, Walk. Cat. xxvii. p. 14<sup>1</sup>; Hampson, P. Z. S. 1897, p. 678, fig. 55<sup>2</sup>.

*Scopula parallelalis*, Walk. Cat. xxxiv. p. 1462<sup>3</sup>.

*Ugra parallela*, Walk. antea, ii. p. 199.

The type of *C. bilinea* was from Brazil<sup>1</sup>, and that of *S. parallelalis* from Bogota<sup>3</sup>.

### 2. *Caphys subrosealis*.

*Ugra subrosealis*, Walk. antea, ii. p. 200.

To the localities given, add:—MEXICO, Presidio de Mazatlan (*Forrer*), Amula in Guerrero (*H. H. Smith*).

### 3. *Caphys dubia*.

*Condylolomia dubia*, Warren, Ann. & Mag. Nat. Hist. (6) vii. p. 495<sup>1</sup>.

*Caphys dubia*, Hampson, P. Z. S. 1897, p. 678<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*); GUATEMALA, Las Mercedes (*Champion*).—BRAZIL<sup>2</sup>, Rio Janeiro<sup>1</sup>; ANTILLES<sup>2</sup>.

Our specimens are identical with the type in the National Museum.

### 4. *Caphys palmipes*.

*Amblyura* (?) *palmipes*, Feld. & Rogenh. Reise der Novara, Lep. t. 137. fig. 23<sup>1</sup>.

*Caphys palmipes*, Hampson, P. Z. S. 1897, p. 679<sup>2</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Las Mercedes, Cerro Zunil (*Champion*); PANAMA, Bugaba (*Champion*).—BRAZIL<sup>1 2</sup>.

Central-American specimens agree very nearly with Felder and Rogenhofer's figure.

## STEMMATOPHORA (II. p. 200).

### 3. *Stemmatophora holophæalis*.

*Paridnea holophæalis*, Rag. Ann. Soc. Ent. Fr. 1891, p. 602<sup>1</sup>; Hampson, P. Z. S. 1897, p. 665, fig. 33<sup>2</sup>.

*Stemmatophora demonica*, Druce, antea, ii. p. 200, t. 60. fig. 9 (1895).

Ragonot's type was from Brazil<sup>1</sup>.

## PYRALIS (II. p. 201).

### 4. *Pyralis electalis*. (Tab. C. fig. 10, ♂.)

*Aglossa electalis*, Hulst, Trans. Amer. Ent. Soc. xiii. p. 146<sup>1</sup>.

*Pyralis electalis*, Hampson, Trans. Ent. Soc. Lond. 1896, p. 508<sup>2</sup>.

*Hab.* NORTH AMERICA, California<sup>2</sup>, Arizona<sup>1</sup>.—MEXICO, Northern Sonora (*Morrison*).

We figure a male: the female is rather larger.

### 5. *Pyralis manihotalis*.

*Pyralis manihotalis*, Guen. Sp. gén. des Léop. viii. p. 121<sup>1</sup>; Hampson, Trans. Ent. Soc. Lond. 1896, p. 509<sup>2</sup>.

*Pyralis vetusalis*, Walk. Cat. xix. p. 891<sup>3</sup>.

*Pyralis gerontesalis*, Walk. Cat. xix. p. 896<sup>4</sup>; Moore, Lep. Ceyl. iii. t. 178. fig. 6<sup>5</sup>.

*Sacatia laudatella*, Walk. Cat. xxvii. p. 124<sup>6</sup>.

*Pyralis despectalis*, Walk. Cat. xxxiv. p. 1243<sup>7</sup>.

*Pyralis* (?) *miseralis*, Walk. Cat. xxxiv. p. 1244<sup>8</sup>.

*Pyralis achatina*, Butl. Ent. Monthly Mag. xiv. p. 49<sup>9</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*).—GUIANA<sup>1</sup>; ANTILLES, San Domingo<sup>3</sup>.

This species is generally distributed in the Neotropical, Oriental, and Australian regions, and also occurs in the Hawaiian Is.<sup>9</sup> A very small specimen of it has been received from Southern Mexico.

## HYPERPARACHMA (II. p. 202).

### *Hyperparachma bursarialis* (II. p. 202).

To the localities given, add:—MEXICO, Jalapa (*M. Trujillo*); PANAMA, Volcan de Chiriqui (*Champion*).

## PYRAUSTA (II. p. 204) \*.

### 6. *Pyrausta trizonalis*, (Tab. C. fig. 11.)

*Pyrausta trizonalis*, Hampson, P. Z. S. 1899, p. 267<sup>1</sup>.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*), Cordova, Orizaba (*coll. Schaus*<sup>1</sup>), Jalapa (*M. Trujillo*); GUATEMALA, San Gerónimo, Lanquin, and Chiacam in Vera Paz, Dueñas (*Champion*); PANAMA, Volcan de Chiriqui (*Champion*).

A rare species, of which we have received but very few specimens. The Amula example is figured.

### 7. *Pyrausta obtusanal*is, sp. n. (Tab. C. fig. 12.)

Primaries dark chrome-yellow, shaded with brown, with a brown line crossing the middle of the wing from the costal to the inner margin, and a rather wide pinkish-brown submarginal line extending from the apex to the anal angle, the fringe brown; secondaries pale yellowish-white, darker round the outer margin: (head wanting), thorax, abdomen, and legs pale brown. Expanse 1 inch.

*Hab.* MEXICO, Jalapa (*coll. Schaus*).

One specimen.

## CALAMOCHROUS (II. p. 205).

### *Calamochrous chilonalis* (II. p. 205).

To the localities given, add:—MEXICO, Orizaba (*F. D. G.*).

\* Sir George Hampson (P. Z. S. 1899, p. 262) records *P. postrubralis* from "Arizona, Mexico": Arizona is within the limits of the United States.



ENDOLOPHIA (to follow the genus *Calamochrous*, II. p. 205).

*Endolophia*, Hampson, P. Z. S. 1899, p. 233.

1. *Endolophia rufitinctalis*.

*Endolophia rufitinctalis*, Hampson, P. Z. S. 1899, p. 233, fig. 141<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll.* *Schaus*<sup>1</sup>; *M. Trujillo*).

## SYLLYTHRIA (II. p. 206).

*Syllythria rosa* (II. p. 206).

To the localities given, add :—COSTA RICA, La Uruca, San José (*coll.* *Dognin*).

## CONDYLORRHIZA (II. p. 210).

2. *Condylorrhiza silicalis*.

*Botys silicalis*, Guen. Sp. gén. des Lép. viii. p. 349<sup>1</sup>.

*Botys cypræalis*, Walk. Cat. xviii. p. 596<sup>2</sup>.

*Condylorrhiza sublutalis*, Druce, *antea*, ii. p. 211, t. 60. fig. 26.

Guenée's types were from Cayenne and Brazil<sup>1</sup>, that of Walker from Brazil<sup>2</sup>.

## EPICORSIA (II. p. 211).

*Epicorsia mellinalis* (II. p. 211).

To the localities given, add :—COSTA RICA, Candelaria Mts. (*Underwood*).

MEROCTENA (to follow the genus *Sameodes*, II. p. 213).

*Meroctena*, Lederer, Wien. ent. Monatschr. vii. p. 392 (1863); Hampson, P. Z. S. 1899, p. 177.

1. *Meroctena zygialis*, sp. n. (Tab. C. fig. 13.)

*Female*. Primaries very pale citron-yellow, darker along the costal and outer margins, with two brown spots near the base and one at the end of the cell, a curved submarginal line of small brown dots extending from the costal to the inner margin, and a marginal row of minute dots extending from the apex to the anal angle, the fringe yellow; secondaries very similar to the primaries, but with lines of small spots only: head, antennæ, thorax, abdomen, and legs pale yellow. Expanse  $1\frac{4}{10}$  inch.

*Hab.* MEXICO, Jalapa (*coll.* *Schaus*).

One specimen.

## APHYTOCEROS (II. p. 213).

4. *Aphytoceros samarialis*, sp. n. (Tab. C. fig. 14.)

*Male*. Primaries semihyaline-white, the base dark reddish-brown, crossed by two fine metallic blue lines, a broad reddish-brown band, darker near the anal angle, crossing the wing beyond the cell from the costal

to the inner margin, the outer margin slightly clouded with brown, the fringe white; secondaries semihyaline-white, crossed about the middle from the costal to the inner margin by a fine brown line, the apex, anal angle, and inner margin clouded with reddish-brown, the marginal line white: head and thorax grey, the tegulae and antennae black; the abdomen black, each segment edged with white; the anal tuft, the underside of the thorax and abdomen, and the legs white. Expanse 1 inch.

*Hab.* COSTA RICA, Azahar de Cartago 5000 to 6000 feet (*Underwood, in coll. Schaus*).

## NOMOPHILA (II. p. 216).

### 1. *Nomophila astigmalis*.

*Nomophila astigmalis*, Hampson, P. Z. S. 1899, p. 201<sup>1</sup>.

*Hab.* MEXICO, Orizaba (*coll. Schaus*<sup>1</sup>).

## POLYGRAMMODES (II. p. 218).

### 2. *Polygrammodes cyamon*, sp. n. (Tab. C. fig. 15, ♂.)

*Male.* Primaries reddish-brown, crossed about the middle from the costal to the inner margin by a darker brown band, which is edged with a narrow yellow line, an elongate white spot at the end of the cell; secondaries white, the apex, outer margin, and fringe reddish-brown: head, thorax, and abdomen reddish-brown, the antennae pale whitish-brown, the legs dark reddish-brown. Expanse  $1\frac{4}{10}$  inch.

*Hab.* MEXICO, Oaxaca (*coll. Schaus*).

One specimen.

## PACHYZANCLA (II. p. 221).

### *Pachyzancla* (?) *silicalis* (II. p. 222).

To the localities given, add:—MEXICO, Presidio de Mazatlan (*Forrer*), Atoyac in Vera Cruz (*H. H. Smith*).

### 5. *Pachyzancla semilaniata*. (Tab. C. fig. 16.)

*Pachyzancla semilaniata*, Hampson, Ann. & Mag. Nat. Hist. (6) xvi. p. 342<sup>1</sup>; P. Z. S. 1899, p. 203<sup>2</sup>.

*Hab.* MEXICO, Tierra Colorada in Guerrero, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, Cerro Zunil (*Champion*).—ANTILLES, St. Vincent<sup>1</sup>.

Our specimens are almost identical with the type. We figure one from Teapa.

### 6. *Pachyzancla pachycera*.

*Pachyzancla pachycera*, Hampson, P. Z. S. 1899, p. 204<sup>1</sup>.

*Hab.* MEXICO, Orizaba (*coll. Schaus*<sup>1</sup>).

### 7. *Pachyzancla acyptera*.

*Pachyzancla acyptera*, Hampson, P. Z. S. 1899, p. 205<sup>1</sup>.

*Hab.* MEXICO, Orizaba (*coll. Schaus*<sup>1</sup>).

## SALBIA (II. p. 223).

6. *Salbia trapezalis*.

*Salbia trapezalis*, Guen. Sp. gén. des Lép. viii. p. 200<sup>1</sup>; Walk. Cat. xvii. p. 360<sup>2</sup>.

*Hab.* GUATEMALA, San Gerónimo (*Champion*).—AFRICA, Sierra Leone<sup>1</sup>.

I think the locality given by Guenée is most likely incorrect.

7. *Salbia lotanalis*, sp. n. (Tab. C. fig. 17, ♀.)

*Female.* Primaries purplish-brown, with a number of semihyaline pale yellow spots near the base, and a large semihyaline pale yellow spot beyond the cell, the latter edged with a row of minute yellow dots; secondaries semihyaline pale yellow, crossed from the costal to the inner margin by two waved brown lines, the outer margin from the apex to the anal angle broadly bordered with purplish-brown; the fringe of both wings alternately brown and yellow: head, antennæ, thorax, and tegulæ dark brown, the abdomen greyish-brown, the underside of the latter white. Expanse  $1\frac{1}{10}$  inch.

*Hab.* COSTA RICA, Azahar de Cartago 5000 to 6000 feet (*Underwood, in coll. Schaus*).

One specimen.

## DICHOGAMA (II. p. 234).

*Dichogama redtenbacheri* (II. p. 234).

To the localities given, add:—GUATEMALA, Guatemala city (*Rodriguez, in mus. D.*).

I am indebted to Mons. Candèze for a Guatemalan specimen of this species.

## CLINIODES (II. p. 235).

3. *Cliniodes underwoodi*, sp. n. (Tab. C. fig. 18, ♀.)

*Female.* Primaries reddish-brown, crossed beyond the cell from the costal to the inner margin by a wide greyish-white band, edged on the inner side by a white line, which curves round to the base of the wing, and with a small white streak at the end of the cell and a marginal row of small black dots extending from the apex to the anal angle, the fringe dark brown; secondaries glossy white, the marginal line dark brown, the fringe white: head and antennæ brown, the thorax, tegulæ, and abdomen dark grey, the underside of the latter white, the legs pale brown. Expanse  $1\frac{3}{4}$  inch.

*Hab.* COSTA RICA, Azahar de Cartago 5000 to 6000 feet (*Underwood, in coll. Schaus*).

A fine distinct species, allied to *C. rubialalis*, Dogn.

TYSPANODES (to follow the genus *Carbaca*, II. p. 236).

*Tyspanodes*, Warren, Ann. & Mag. Nat. Hist. (6) vii. p. 425 (1891); Hampson, P. Z. S. 1898, p. 672.

*Peribona*, Snellen, Tijdschr. voor Ent. 1894, p. 43.

*Radiorista*, Warren, Ann. & Mag. Nat. Hist. (6) xvii. p. 138.

1. *Tyspanodes suasalis*, sp. n. (Tab. C. fig. 21, ♂.)

*Male.* Primaries and secondaries semihyaline yellowish-white, the primaries slightly darker near the apex: head, thorax, abdomen, and legs yellowish-white, the antennæ pale yellow. Expanse 1 inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

One specimen.



## PTERYGISUS (II. p. 238).

3. *Pterygisus apygalis*.

*Isopteryx apygalis*, Guen. Sp. gén. des Lép. viii. p. 229<sup>1</sup>.

*Nacoleia apygalis*, Hampson, P. Z. S. 1898, p. 701<sup>2</sup>.

*Pterygisus appialis*, anteà, ii. p. 238.

Guenée's type was from Colombia<sup>1</sup>.

## PANTOGRAPHA (II. p. 239).

3. *Pantographa limata*.

*Pantographa limata*, Grote & Robins. Ann. Lyc. N. York, viii. p. 464, t. 16. figg. 16, 17<sup>1</sup>.

*Pantographa suffusalis*, anteà, ii. p. 240.

Grote and Robinson's types were from the Atlantic States of North America<sup>1</sup>.

7. *Pantographa expansalis*.

*Botys expansalis*, Leder. Wien. ent. Monatschr. vii. pp. 376, 474, t. 11. fig. 12<sup>1</sup>.

*Sylepta expansalis*, Hampson, P. Z. S. 1898, p. 717<sup>2</sup>.

*Pantographa orsonalis*, anteà, ii. p. 241.

The figure given by Lederer is a very bad one. His type was from an unknown locality<sup>1</sup>.

## SATHRIA (II. p. 241).

*Sathria internitalis* (II. p. 241).

To the localities given, add:—GUATEMALA, Zapote (*Champion*).

## PILOCROCIS (II. p. 242).

2. *Pilocrocis calamistis*.

*Pilocrocis calamistis*, Hampson, P. Z. S. 1898, p. 657<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).

3. *Pilocrocis leucoplagal*.

*Pilocrocis leucoplagal*, Hampson, P. Z. S. 1898, p. 658, t. 49. fig. 18<sup>1</sup>.

*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).—BRAZIL<sup>1</sup>.

## CERATOCLASIS (II. p. 244).

3. *Ceratoclasia lupa*, sp. n. (Tab. C. fig. 20.)

*Male*. Primaries and secondaries fawn-colour; the primaries crossed from the costal to the inner margin by three very indistinct waved blackish lines, and with a marginal row of small black dots extending from the apex to the anal angle; the secondaries with a small black spot at the end of the cell, below which a very indistinct waved black line crosses the wing from the costal to the inner margin, and with a marginal row of small black dots as upon the primaries: head, antennæ, tegulæ, thorax, abdomen, and legs fawn-colour.—*Female*. Similar to the male, but larger. Expanse, ♂ 1, ♀ 1 $\frac{3}{16}$  inch.

*Hab.* GUATEMALA, Las Mercedes 3000 feet (*Champion*).

## SAMEA (II. p. 244).

4. *Samea phyllisalis*.

*Samea phyllisalis*, Walk. Cat. xix. p. 936<sup>1</sup>.

*Hab.* NORTH AMERICA, United States<sup>1</sup>.—GUATEMALA, Sabo in Vera Paz, Volcan de Atitlan, Zapote (*Champion*); COSTA RICA, Candelaria Mts. (*Underwood*); PANAMA, Taboga I. (*J. J. Walker*).

Varies greatly in colour, the females being generally darker than the males.

5. *Samea* (?) *asadias*, sp. n. (Tab. C. fig. 19.)

*Female*. Primaries very pale brown, the costal margin edged with yellowish-white from the base almost to the apex, a curved brown line crossing the wing near the base from the costal to the inner margin, a round spot below the cell, a small spot in the cell, and a large triangular spot at the end of it, all hyaline-white, the fringe pale brown; secondaries semihyaline brownish-white, darker from the apex to the anal angle, a small brown spot at the end of the cell, and a waved dark brown line crossing the wing from the costal to the inner margin: head, antennæ, tegulæ, thorax, and abdomen pale brown, the underside of the latter and the legs white. Expanse  $1\frac{1}{10}$  inch.

*Hab.* GUATEMALA, Pantaleon (*Champion*); COSTA RICA, Volcan de Irazu, Rio Sucio (*Rogers*), Candelaria Mts. (*Underwood*).

A specimen from the Candelaria Mountains is figured.

## MIMORISTA (II. p. 245).

*Mimorista salaconalis* (II. p. 245).

To the locality given, add:—MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

The Mexican specimen is very like the one figured, but rather more marked with brown lines.

EBULEA (to follow the genus *Prenesta*, II. p. 247).

*Ebulea*, Guenée, Sp. gén. des Léop. viii. p. 357 (1854).

1. *Ebulea catalaunalis*.

*Botys catalaunalis*, Dup. Hist. Nat. Léop. Fr., Noct. v. 2, p. 330, t. 232. fig. 8<sup>1</sup>.

*Ebulea catalaunalis*, Guen. Sp. gén. des Léop. viii. p. 361<sup>2</sup>.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*).—S. EUROPE<sup>1 2</sup>; INDIA<sup>2</sup>.

One specimen of this widely-distributed species has been received from N.W. Mexico.

HOMOPHYSA (to follow the genus *Conchylodes*, II. p. 252).

*Homophysa*, Guenée, Sp. gén. des Léop. viii. p. 364 (1854); Hampson, P. Z. S. 1898, p. 607.

1. *Homophysa falcatalis*. (Tab. C. fig. 22.)

*Homophysa falcatalis*, Hampson, Ann. & Mag. Nat. Hist. (6) xvi. p. 333 (1895)<sup>1</sup>; P. Z. S. 1898, p. 608<sup>2</sup>.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*).—ANTILLES<sup>2</sup>, Grenada and St. Vincent<sup>1</sup>.

2. **Homophysa remellalis**, sp. n. (Tab. C. fig. 24.)

Primaries chrome-yellow, slightly clouded with brown, crossed about the middle from the costal to the inner margin by a rather wide white line, the marginal line white, the fringe brown; secondaries creamy-white, slightly shaded with pale reddish-brown from the apex to the anal angle: head, antennæ, thorax, and abdomen yellowish, the base of the latter and the collar white. Expanse  $\frac{1}{2}$  inch.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*).

Two specimens, both in very worn condition.

3. **Homophysa citronalis**, sp. n. (Tab. C. fig. 27.)

Primaries grey, with the base and apex pale yellow, a pale brown band crossing the wing beyond the middle from the costal to the inner margin, the fringe pale brown; secondaries grey, almost white at the base, and with a white spot close to the anal angle: head, palpi, tegulæ, thorax, abdomen, and legs greyish-white. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Atoyac in Vera Cruz (*H. H. Smith*).

One specimen.

PIONEA (to follow the genus *Omiodes*, II. p. 254).

*Pionea*, Guenée, Sp. gén. des Lép. viii. p. 367 (1854); Hampson, P. Z. S. 1899, p. 239.

1. **Pionea profundalis**.

*Botys profundalis*, Pack. Ann. Lyc. N. York, x. p. 261<sup>1</sup>.

*Pionea profundalis*, Hampson, P. Z. S. 1899, p. 242<sup>2</sup>.

*Hab.* NORTH AMERICA<sup>2</sup>, California<sup>1</sup>.—COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).

One specimen.

2. **Pionea fusculalis**. (Tab. C. fig. 25.)

*Pionea fusculalis*, Hampson, P. Z. S. 1899, p. 243<sup>1</sup>.

*Hab.* MEXICO, Orizaba (*coll. Schaus*<sup>1</sup>), Jalapa (*M. Trujillo*); COSTA RICA, Rio Sucio (*Rogers*).—PERU, Callao<sup>1</sup>.

We figure a specimen from Jalapa.

3. **Pionea phæalis**. (Tab. CI. figg. 1, ♂; 2, ♀.)

*Pionea phæalis*, Hampson, P. Z. S. 1899, p. 244<sup>1</sup>.

*Hab.* MEXICO, Orizaba (*coll. Schaus*<sup>1</sup>), Jalapa (*M. Trujillo*); COSTA RICA, Rio Sucio (*Rogers*).

We figure a male from Rio Sucio and a female from Jalapa.

4. **Pionea antigastridia**. (Tab. C. fig. 26.)

*Pionea antigastridia*, Hampson, P. Z. S. 1899, p. 244<sup>1</sup>.

*Hab.* MEXICO, Orizaba (*coll. Schaus*<sup>1</sup>).

The type is figured.



5. *Pionea asychanalis*, sp. n. (Tab. CI. fig. 3.)

Primaries pale greyish-fawn-colour, with a large white spot on the costal margin extending across the end of the cell, the fringe white; secondaries pale greyish-fawn-colour, paler on the costal margin; the underside pure white: head, palpi, thorax, and abdomen greyish-fawn-colour, the legs white. Expanse  $\frac{9}{10}$  inch.

*Hab.* GUATEMALA, El Reposo 800 feet (*Champion*).

One specimen. This species is allied to *P. flavinotata*, Warren.

6. *Pionea belialis*, sp. n. (Tab. CI. fig. 4.)

Primaries dark greyish-brown, the costal, outer, and inner margins edged with yellowish-white, the veins and a double line extending from the apex to the middle of the inner margin also yellowish-white; secondaries greyish-white, darker round the outer margin; the fringe pale grey: head, thorax, and abdomen yellowish-white, the antennæ brown. Expanse  $\frac{7}{10}$  inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

One specimen only of this very distinct species was sent.

7. *Pionea thyanalis*, sp. n. (Tab. CI. fig. 5.)

Primaries dark greyish-black, the inner margin near the base paler, a rather wide streak extending from the costal margin to the end of the cell, a submarginal line, and the fringe, white; secondaries dark greyish-brown, the fringe white: head, antennæ, and tegulæ greyish-white, the thorax and abdomen brown, the legs white. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*).

One specimen. This species is nearest allied to *P. belialis*.

8. *Pionea chanesalis*, sp. n. (Tab. CI. fig. 8.)

Primaries pale glossy brown, crossed from the end of the cell to the inner margin close to the base by a yellowish-white line, a curved submarginal similarly coloured line extending from near the apex to the anal angle, the marginal line with very minute black dots, the fringe brown; secondaries glossy yellowish-white, with a faint submarginal brown line extending from the apex to the inner margin: head, antennæ, thorax, abdomen, and legs pale brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* GUATEMALA, El Tumbador 2500 feet (*Champion*).

One specimen.

9. *Pionea tisiassalis*, sp. n. (Tab. CI. fig. 6.)

*Female.* Primaries cream-colour, crossed about the middle from the costal to the inner margin by a wide brown band, which becomes much narrower on the inner margin, a small dot in the cell and one beyond it both cream-colour; secondaries glossy yellowish-white: head, antennæ, thorax, and abdomen brownish-white. Expanse 1 inch.

*Hab.* COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).

One specimen. This species is very unlike any other known to me.

10. *Pionea aponianalis*, sp. n. (Tab. CI. fig. 7.)

Primaries and secondaries pale whitish-fawn-colour; the primaries crossed by three fine darker lines—the two nearest the base extending from the costal to the inner margin, the third, nearest the apex, only partly crossing the wing,—the marginal line dark brown; the secondaries crossed by two fine brown lines, the

marginal line dark brown; the underside much paler than above, with the lines very indistinct: head, antennæ, thorax, abdomen, and legs pale fawn-colour, the anal tuft dark brown. Expanse 1 inch.

*Hab.* MEXICO, Orizaba (*coll. Schaus*), Atoyac in Vera Cruz (*Schumann*).

Mr. Schaus's specimen is described and figured; the one from Atoyac is without head and abdomen.

11. *Pionea crambialis*, sp. n. (Tab. CI. fig. 9.)

*Male.* Primaries dark grey, darker along the costal margin, the veins white, a marginal row of minute black spots extending from the apex to the anal angle, the fringe white; secondaries grey, with the marginal spots and the fringe similar to those of the primaries: head, antennæ, thorax, abdomen, and legs grey. Expanse  $1\frac{3}{10}$  inch.

*Hab.* MEXICO, Orizaba (*coll. Schaus*).

One specimen.

BOCCHORIS (II. p. 254).

*Bocchoris zoilusalis* (II. p. 254).

To the localities given, add:—MEXICO, Cuernavaca in Morelos (*H. H. Smith*); GUATEMALA, Cahabon in Vera Paz (*Champion*).

2. *Bocchoris chalcidiscalis*. (Tab. C. fig. 23.)

*Bocchoris chalcidiscalis*, Hampson, P. Z. S. 1898, p. 652<sup>1</sup>.

*Hab.* GUATEMALA, Panima in Vera Paz (*Champion*).—BRAZIL, Espiritu Santo<sup>1</sup>.

One specimen, very similar to the type.

HEDYLEPTA (II. p. 257).

4. *Hedylepta* (?) *mizaralis*, sp. n. (Tab. CI. fig. 10, ♂.)

*Male.* Primaries and secondaries pale brownish-fawn-colour; the primaries crossed from the costal to the inner margin by three fine zigzag brown lines—the first close to the base, the second at the end of the cell, the third submarginal,—the marginal line black, the fringe pale brown; the secondaries crossed from the costal margin to the anal angle by two fine waved lines, and with a small black spot at the anal angle: head, antennæ, abdomen, and legs pale brown. Expanse 1 inch.

*Hab.* PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

Several specimens, which do not show any variation.

5. *Hedylepta lehialis*, sp. n. (Tab. CI. fig. 11.)

*Male.* Primaries and secondaries dull brown, with a purplish gloss; the primaries crossed from the costal to the inner margin by three fine dark brown lines; the secondaries with two lines: head, antennæ, thorax, abdomen, and legs dark brown. Expanse 1 inch.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*).

A male and a female of this dull-coloured species were sent.

## EPICHRONISTIS (II. p. 258).

**Epichronistis cylonalis** (II. p. 258).

To the locality given, add:—PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

3. **Epichronistis mellinialis**, sp. n. (Tab. CI. fig. 12.)

*Male*. Primaries and secondaries pale yellowish-white; the primaries with the costal margin, apex, and outer margin brownish, a small spot in the cell and a line at the end of it dark brown, two waved brown lines crossing the wing from the costal to the inner margin—the first near the base, the second beyond the cell,—the fringe dark brown; the secondaries partly crossed by three faint brown zigzag lines, the outer margin and the fringe brown: (head wanting), the collar yellow, the tegulæ and thorax yellowish-white; the abdomen white, with the first and third segments pale yellow; the legs white. Expanse  $1\frac{1}{2}$  inch.

*Hab.* GUATEMALA, Dueñas (*Champion*).

One specimen, not very close to any described species known to me.

## SYNGAMIA (II. p. 259).

4. **Syngamia tremulalis**, sp. n. (Tab. CI. fig. 15.)

Primaries and secondaries pale brownish-fawn-colour, both wings crossed from the costal to the inner margin by two fine zigzag darker brown lines—the first near the base, the second beyond the middle,—and with a marginal black line, the primaries with a small brown spot at the end of the cell: head, antennæ, thorax, abdomen, and legs pale brown. Expanse 1 inch.

*Hab.* MEXICO, Orizaba (*coll. Schaus*).

One specimen.

NACOLEIA (to follow the genus *Desmia*, II. p. 261).

*Nacoleia*, Walker, Cat. xix. p. 934 (1859); Hampson, P. Z. S. 1898, p. 693.

1. **Nacoleia salbialis**.

*Nacoleia salbialis*, Hampson, P. Z. S. 1898, p. 699<sup>1</sup>.

*Hab.* MEXICO, Orizaba (*Mus. Brit. & coll. Schaus*<sup>1</sup>).

PHRYGANODES (to follow the genus *Rhectosemia*, II. p. 264).

*Phryganodes*, Guenée, Sp. gén. des Léop. viii. p. 353 (1854); Hampson, P. Z. S. 1898, p. 677.

1. **Phryganodes omphalobasis**. (Tab. CI. fig. 14.)

*Phryganodes omphalobasis*, Hampson, P. Z. S. 1898, p. 683, t. 49. fig. 20<sup>1</sup>.

*Hab.* GUATEMALA, San Isidro 1600 feet (*Champion*).—VENEZUELA<sup>1</sup>.

One specimen, almost identical with the Venezuelan type in the National Collection.

ISCHNURGES (to follow the genus *Lineodes*, II. p. 265).

*Ischnurges*, Lederer, Wien. ent. Monatschr. vii. p. 418 (1863); Hampson, P. Z. S. 1899, p. 187.

*Nesolocho*, Meyrick, Trans. Ent. Soc. Lond. 1886, p. 239.

*Rhectothis*, Warren, Ann. & Mag. Nat. Hist. (6) vi. p. 474 (1890).

*Stenochora*, Warren, Ann. & Mag. Nat. Hist. (6) ix. p. 298 (1892).



1. *Ischnurges perpulchralis*.

*Ischnurges perpulchralis*, Hampson, P. Z. S. 1898, t. 50. fig. 24, 1899, p. 188<sup>1</sup>.

*Hab.* MEXICO, Orizaba (*coll. Schaus*<sup>1</sup>).

2. *Ischnurges eudamidasalis*, sp. n. (Tab. CI. fig. 13.)

Primaries and secondaries black; the primaries with two small white dots below the cell, a semihyaline round white spot at the end of it, and two faint white streaks nearer the apex; the secondaries with the base and several small spots about the middle semihyaline-white; the fringe alternately black and white: head, antennæ, thorax, abdomen, and legs black. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Jalapa (*coll. Schaus*).

One specimen.

3. *Ischnurges bagoasalis*, sp. n. (Tab. CI. fig. 16.)

Primaries and secondaries dark brown; the primaries irrorated with bluish-grey scales at the base and partly along the inner margin, two small spots close to the base, one in the cell, another below it, and a marginal row of spots extending from the apex to the anal angle, all white, the fringe alternately dark brown and white; the secondaries with the base, a large spot in the middle, and several small spots on the outer margin near the anal angle, white: head, antennæ, thorax, abdomen, and legs black. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Orizaba (*coll. Schaus*).

One specimen.

DIASEMIA (to follow the genus *Ischnurges*).

*Diasemia*, Guenée, Sp. gén. des Lép. viii. p. 233 (1854); Hampson, P. Z. S. 1899, p. 213.

*Myriostephes*, Meyrick, Trans. Ent. Soc. Lond. 1884, p. 327.

*Choristostigma*, Warren, Ann. & Mag. Nat. Hist. (6) ix. p. 440 (1892).

1. *Diasemia erubescens*. (Tab. CI. fig. 17.)

*Diasemia erubescens*, Hampson, P. Z. S. 1899, p. 214<sup>1</sup>.

*Hab.* MEXICO, Orizaba, Jalapa (*coll. Schaus*<sup>1</sup>, *M. Trujillo*).

2 *Diasemia* (?) *minutalis*, sp. n. (Tab. CI. fig. 18.)

Primaries black, crossed from the costal to the inner margin by two fine very indistinct lines—the first curved, nearest the base, the second beyond the cell,—and with a square-shaped white spot in the cell and a round white dot at the end of it; secondaries black, crossed about the middle from the costal to the inner margin by a white band; the fringe alternately black and white: head, antennæ, thorax, tegulæ, and abdomen black, the underside of the latter and the legs white. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Orizaba (*coll. Schaus*).

CYBOLOMIA (to follow the genus *Diasemia*).

*Hypolais*, Guenée, Sp. gén. des Lép. viii. p. 239 (1854) (nomen præocc.).

*Cybalomia*, Lederer, Wien. ent. Monatsehr. vii. p. 420 (1863).

*Cybolomia*, Hampson, P. Z. S. 1899, p. 228.

1. *Cybolomia ossealis*. (Tab. CI. fig. 19, ♀.)

*Cybolomia ossealis*, Hampson, P. Z. S. 1899, p. 229<sup>1</sup>.

*Hab.* MEXICO, Orizaba (*coll. Schaus*<sup>1</sup>).—ECUADOR<sup>1</sup>.

## GLAPHYRIA (II. p. 267).

4. *Glaphyria* (?) *ausonialis*, sp. n. (Tab. CI. fig. 20.)

Primaries very pale fawn-colour, the base and a large rounded spot at the end of the cell silvery-white, two small dots close to the apex and a streak near the anal angle white; secondaries silvery-white, edged with pale fawn-colour from the apex to the anal angle; the fringe white: head, antennæ, thorax, abdomen, and legs white. Expanse  $\frac{3}{4}$  inch.

*Hab.* GUATEMALA, Las Mercedes (*Champion*); PANAMA, Volcan de Chiriqui (*Champion*).

One specimen from each locality. The one from Las Mercedes is figured.

5. *Glaphyria* —?

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*).

Two specimens, too imperfect for description.

## BLEPHAROMASTIX (II. p. 268).

7. *Blepharomastix vilialis*.

*Stenia vilialis*, Guen. Sp. gén. des Léop. viii. p. 244<sup>1</sup>.

*Blepharomastix pulverulalis*, anteà, ii. p. 269, t. 63. fig. 2.

Guenée's type was from Brazil<sup>1</sup>.

8. *Blepharomastix ranalis*.

*Stenia ranalis*, Guen. Sp. gén. des Léop. viii. p. 243<sup>1</sup>.

*Blepharomastix datialis*, anteà, ii. p. 269, t. 63. fig. 3.

Guenée's type was from North America<sup>1</sup>.

11. *Blepharomastix stenialis*.

*Isopteryx stenialis*, Guen. Sp. gén. des Léop. viii. p. 231<sup>1</sup>.

*Blepharomastix sagralis*, anteà, ii. p. 270, t. 63. fig. 7.

Guenée's type was from Georgia<sup>1</sup>.

STENIA (to follow the genus *Blepharomastix*, II. p. 271).

*Stenia*, Guenée, Sp. gén. des Léop. viii. p. 241 (1854); Walker, Cat. xvii. p. 413.

1. *Stenia bufalis*. (Tab. CI. fig. 21.)

*Stenia bufalis*, Guen. Sp. gén. des Léop. viii. p. 245<sup>1</sup>; Walk. Cat. xvii. p. 419<sup>1</sup>.

*Hab.* PANAMA, near the city (*J. J. Walker*).—GUIANA, Cayenne<sup>1 2</sup>.

Two specimens.

## EURRHYPARODES (II. p. 271).

2. *Eurrhparodes syllepidia*.

*Eurrhparodes syllepidia*, Hampson, P. Z. S. 1898, p. 626, t. 49. fig. 6<sup>1</sup>.

*Hab.* MEXICO, Guadalajara (*coll. Schaus*<sup>1</sup>).

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PSEPHIS (to follow the genus *Eurrhyarodes*, II. p. 272).

*Psephis*, Guenée, Sp. gén. des Léop. viii. p. 257 (1854); Hampson, P. Z. S. 1898, p. 605.

### 1. *Psephis myrmidonalis*.

*Psephis myrmidonalis*, Guen. Sp. gén. des Léop. viii. p. 257, Delt. et Pyral. t. 7. fig. 8<sup>1</sup>; Hampson, P. Z. S. 1898, pp. 605, 606, fig. 3<sup>2</sup>.

*Scybalista trifunalis*, Leder. Wien. ent. Monatschr. vii. p. 455, t. 18. fig. 16<sup>3</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*).—VENEZUELA<sup>3</sup>; BRAZIL<sup>2</sup>.

The habitat of this species was unknown to Guenée<sup>1</sup>. We have received a single specimen of it from our region.

CATACLYSTA (II. p. 272).

### 4. *Cataclysta onyxalis*.

*Cataclysta divulsalis*, anteà, ii. p. 272, t. 63. fig. 13 (nec Walk.).

*Cataclysta onyxalis*, Hampson, Trans. Ent. Soc. Lond. 1897, p. 149.

### 14. *Cataclysta moniligeralis*.

*Cataclysta moniligeralis*, Leder. Wien. ent. Monatschr. vii. pp. 454, 487, t. 18. fig. 10<sup>1</sup>; Hampson, Trans. Ent. Soc. Lond. 1897, p. 149<sup>2</sup>.

*Hab.* NORTH AMERICA<sup>1</sup>.—HONDURAS<sup>2</sup>.—COLOMBIA<sup>2</sup>; ANTILLES<sup>2</sup>.

HYDROCAMPA (II. p. 275).

### 2. *Hydrocampa xantholeucalis*.

*Parthenodes* (?) *xantholeucalis*, Guen. Sp. gén. des Léop. viii. p. 253<sup>1</sup>.

*Hydrocampa decetialis*, anteà, ii. p. 275, t. 63. fig. 22.

Guenée's type was from Georgia<sup>1</sup>.

### *Hydrocampa randalis* (II. p. 275).

Sir George Hampson has made this species the type of a new genus, *Omphaloptera* (cf. Trans. Ent. Soc. Lond. 1897, p. 157).

PARAPONYX (II. p. 277).

### 5. *Paraponyx æchmialis*.

*Aulacodes æchmialis*, Guen. Sp. gén. des Léop. viii. p. 258<sup>1</sup>.

*Paraponyx bosoralis*, anteà, ii. p. 278, t. 63. fig. 31.

Guenée's type was from Cayenne<sup>1</sup>.



NYMPHULA (to follow the genus *Paraponyx*, II. p. 278).

*Nymphula*, Schrank, Fauna Boica, ii. 2, p. 162 (1802); Guenée, Sp. gén. des Lép. viii. p. 402 (1854).

1. *Nymphula similalis*.

*Nymphula similalis*, Guen. Sp. gén. des Lép. viii. p. 403<sup>1</sup>.

*Hab.* NORTH AMERICA<sup>1</sup>.—MEXICO, Northern Sonora (*Morrison*), Presidio de Mazatlan (*Forrer*), Jalapa (*M. Trujillo*); GUATEMALA, Champerico (*Champion*).

This species varies to a great extent, both in colour and markings, from pale yellow to dull brown.

HELLULA (to precede the genus *Scoparia*, II. p. 278).

*Hellula*, Guenée, Sp. gén. des Lép. viii. p. 415 (1854); Hampson, P. Z. S. 1898, p. 760.

1. *Hellula phidilealis*. (Tab. CI. fig. 23.)

*Leucochroma* (?) *phidilealis*, Walk. Cat. xix. p. 972<sup>1</sup>.

*Hellula phidilealis*, Hampson, P. Z. S. 1898, p. 706<sup>2</sup>.

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*); GUATEMALA, San Gerónimo (*Champion*); COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).—VENEZUELA<sup>1</sup>; ANTILLES<sup>2</sup>.

Several specimens, almost identical with Walker's type.

SCOPARIA (II. p. 278).

7. *Scoparia albipunctata*, sp. n. (Tab. CI. fig. 22.)

Primaries blackish-brown, with two small white dots at the end of the cell; secondaries glossy white, the costal margin and apex slightly shaded with brown: head, antennæ, thorax, and abdomen brown. Expanse  $\frac{1}{2}$  inch.

*Hab.* COSTA RICA, Volcan de Irazu 6000 feet (*Rogers*).

One specimen.

EUSTIXIA \* (to follow the genus *Scoparia*, II. p. 279).

*Eustixia*, Hübner, Zutr. Samml. exot. Schmett. ii. p. 24 (1823).

1. *Eustixia octonalis*.

*Orobena octonalis*, Zell. Verh. zool.-bot. Ges. Wien, 1873, p. 211, t. 3. fig. 7<sup>1</sup>.

*Botis sexmaculalis*, Grote, Canad. Ent. viii. p. 98<sup>2</sup>.

*Hab.* NORTH AMERICA, Kansas<sup>2</sup>, Texas<sup>1</sup>.—GUATEMALA, San Gerónimo (*Champion*).

One specimen, very similar to those from the Southern States in the National Museum.

\* The genus *Eustixia*, Hübner, has already been enumerated in this Supplement, *antè* p. 404, but in mistake for *Eustixis*, Hübner [Zutr. Samml. exot. Schmett. iii. p. 24 (1825)], confusion having arisen through this author using the same specific name for the single species placed by him in each genus: figg. 327, 328 (*Eustixia pupula*), and figg. 489, 490 (*Eustixis pupula*).

CLUPEOSOMA (to follow the genus *Eustiria*).

*Clupeosoma*, Snellen, Tijdschr. voor Ent. xxiii. p. 203 (1880).

1. *Clupeosoma bifascialis*.

*Nephopteryx bifascialis*, Walk. Cat. xxvii. p. 59<sup>1</sup>.

*Scybalista bifascialis*, Hampson, P. Z. S. 1898, pp. 608, 609, fig. 6<sup>2</sup>.

*Eupoca cinerea*, Warren, Ann. & Mag. Nat. Hist. (6) viii. p. 64<sup>3</sup>.

*Hab.* PANAMA, Volcan de Chiriqui (*Champion*). — BRAZIL<sup>1 2</sup>, S. Paulo<sup>3</sup>; PERU<sup>2</sup>, Callao<sup>3</sup>.

One specimen from Chiriqui, very similar to Walker's type in the National Collection.

PYCNULIA (to precede the genus *Myelois*, II. p. 279).

*Pycnulia*, Zeller, Horæ Soc. Ent. Ross. xvi. p. 186 (1881).

1. *Pycnulia sylea*, sp. n. (Tab. CI. fig. 24.)

*Male.* Primaries pale reddish-brown, darker on the costal margin, with a white streak extending from the base down the middle almost to the outer margin, and a fine white submarginal line crossing the wing from the apex to the inner margin and continued thence to the base; secondaries chrome-yellow, slightly shaded with pale brown along the costal margin and at the apex; the fringe brown: head, antennæ, palpi, thorax, abdomen, and legs reddish-brown. Expanse  $\frac{3}{4}$  inch.

*Hab.* MEXICO, Atoyac in Vera Cruz (*H. H. Smith*).

One specimen, very distinct from any other species known to me.

ACROBASIS (to follow the genus *Myelois*, II. p. 280).

*Acrobasis*, Zeller, Isis, 1848, p. 606; Ragonot, in Romanoff's Mém. sur les Léop. vii. p. 85 (1893).

1. *Acrobasis pachylepidella*. (Tab. CI. fig. 25, ♂.)

*Acrobasis pachylepidella*, Hampson, in Romanoff's Mém. sur les Léop. viii. t. 55. fig. 19 (ined.\*).

*Hab.* MEXICO, Teapa in Tabasco (*H. H. Smith*).

One specimen, the type.

DIORYCTRIA (to follow the genus *Hyalospila*, II. p. 282).

*Dioryctria*, Zeller, Isis, 1846, p. 733; Ragonot, in Romanoff's Mém. sur les Léop. vii. p. 187.

1. *Dioryctria zimmermanni*. (Tab. CI. fig. 26.)

*Nephopteryx zimmermanni*, Grote, Canad. Ent. ix. pp. 161-163<sup>1</sup>; Kellicott, Canad. Ent. xi. p. 114<sup>2</sup>.

*Pinipestis zimmermanni*, Grote, Bull. U.S. Geol. & Geogr. Surv. iv. p. 699<sup>3</sup>; Hulst, Trans. Am. Ent. Soc. xvii. p. 137<sup>4</sup>.

*Dioryctria zimmermanni*, Rag. in Romanoff's Mém. sur les Léop. vii. p. 190, t. 7. fig. 22 (1893)<sup>5</sup>.

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\* The references to the figures of this and several of the following species are taken from proof-plates kindly lent me by Sir George Hampson, who has undertaken to complete the late E. Ragonot's work on the Phycitinae. The descriptions of these species will be published in vol. viii. of Romanoff's "Mémoires."

*Hab.* NORTH AMERICA, New York <sup>2 3 4</sup>, Buffalo <sup>1</sup>, Pennsylvania <sup>4</sup>.—MEXICO, Rinconada in Vera Cruz (*coll. Schaus*).

One specimen only has been seen from within our limits.

#### NEPHOPTERYX (II. p. 282).

##### 4. *Nephopteryx crassifasciella*.

*Nephopteryx crassifasciella*, Rag. *Nouv. genres et espèces de Phycit.* p. 8 (1888)<sup>1</sup>; Romanoff's *Mém. sur les Léop.* vii. p. 285, t. 9. fig. 7 (1893)<sup>2</sup>; Hulst, *Trans. Am. Ent. Soc.* xvii. p. 146<sup>3</sup>.

*Hab.* NORTH AMERICA<sup>3</sup>, California<sup>2</sup>.—MEXICO, Jalapa (*M. Trujillo*).

One specimen.

#### COPTARTHRIA (to follow the genus *Nephopteryx*, II. p. 282).

*Coptarthria*, Ragonot, in Romanoff's *Mém. sur les Léop.* vii. p. 251 (1893).

##### 1. *Coptarthria dasypyga*.

*Myelois dasypyga*, Zell. *Horæ Ent. Ross.* xvi. p. 215, t. 12. figg. 29 *a, b* (1881)<sup>1</sup>.

*Coptarthria dasypyga*, Rag. in Romanoff's *Mém. sur les Léop.* vii. p. 251, t. 9. fig. 21 (1893)<sup>2</sup>.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).—COLOMBIA, Honda <sup>1 2</sup>.

One specimen.

#### ELASMOPALPUS (II. p. 283).

##### *Elasmopalpus pyrrhochrellus* (II. p. 283).

The Mexican and Guatemalan specimens placed by me under this species belong to *E. rubedinellus*, Zell.

#### HOMÆOSOMA (II. p. 285).

##### 4. *Homæosoma soraella*, sp. n. (Tab. CI. fig. 28.)

Primaries very pale brown, the costal margin broadly white from the base to the apex, the white margin crossed about the middle by a broad band; secondaries semihyaline pale brown: head, antennæ, thorax, and abdomen brown. Expanse  $\frac{1}{2}$  inch.

*Hab.* MEXICO, Jalapa (*M. Trujillo*).

Several specimens.

#### EURYTHMIA (to follow the genus *Homæosoma*, II. p. 286).

*Eurythmia*, Ragonot, *Nouv. genres et espèces de Phycit.* p. 16 (1888).

##### 1. *Eurythmia ignidorsella*.

*Eurythmia ignidorsella*, Hampson, in Romanoff's *Mém. sur les Léop.* viii. t. 55. fig. 19 (ined.).

*Hab.* MEXICO, Jalapa (*M. Trujillo*), Atoyac in Vera Cruz (*Schumann*), Amula in Guerrero 6000 feet (*H. H. Smith*).

Several specimens.



## EPHESTIA (II. p. 286).

7. *Ephestia parvula*.

*Ephestia parvula*, Zell. Horæ Soc. Ent. Ross. xvi. p. 249, t. 12. fig. 51 (1881)<sup>1</sup>.

*Hab.* MEXICO, Presidio de Mazatlan (*Forrer*), Jalapa (*M. Trujillo*), Teapa in Tabasco (*H. H. Smith*).—COLOMBIA, Honda<sup>1</sup>.

One specimen from each locality.

VALDIVIA (to follow the genus *Ephestia*, II. p. 287).

*Valdivia*, Ragonot, Nouv. genres et espèces de Phycit. p. 27 (1888).

1. *Valdivia lativittella*.

*Valdivia lativittella*, Hampson, in Romanoff's Mém. sur les Lép. viii. t. 36. fig. 19 (ined.).

*Hab.* MEXICO, Durango city (*Becker*), Presidio de Mazatlan (*Forrer*).

## SCIRPOPHAGA (II. p. 287).

3. *Scirpophaga tinctella*.

*Salopola tinctella*, Walk. Cat. xxviii. p. 526<sup>1</sup>.

*Scirpophaga tinctella*, Hampson, P. Z. S. 1895, p. 914<sup>2</sup>.

*Hab.* ? HONDURAS<sup>2</sup>.—VENEZUELA<sup>1</sup>.

The quoted localities are apparently taken from the same insect, and one of them must be wrong: Walker gives Venezuela (*Dyson*<sup>1</sup>).

## ERUPA (II. p. 295).

3. *Erupa similis*, sp. n. (Tab. CI. fig. 27.)

Primaries dark brown, with a darker brown spot at the end of the cell and two very indistinct brown lines crossing the wing from the costal margin near the apex to the middle of the inner margin, a few dark brown dots along the outer margin; secondaries pale glossy brown, the fringe darker brown: head, antennæ, tegulæ, and thorax dark brown, the abdomen and legs paler brown. Expanse 1½ inch.

*Hab.* PANAMA, Volcan de Chiriqui (*Champion*).

This species is allied to *E. rutilineella*, Hampson.

## CHILO (II. p. 296).

2. *Chilo vinosellus*.

*Chilo vinosellus*, Hampson, P. Z. S. 1895, p. 955<sup>1</sup>.

*Hab.* BRITISH HONDURAS (*Mus. Brit.*<sup>1</sup>).

## APPENDIX.

THE following species were either omitted from the Supplement, or were recorded too late to be included in their proper place. My work on the Noctuidæ was all in type and partly published before Mr. Schaus's paper was issued. [*cf.* Journ. New York Ent. Soc. vi. pp. 107-120, 141-145 (June 1898)].

- Doa dora*, Neum. & Dyar, Journ. New York Ent. Soc. ii. p. 171 (1894)<sup>1</sup>.—*Hab.* MEXICO<sup>1</sup>. Referred to the Arctiidæ.
- Noctua herculeana*, Schaus, Journ. New York Ent. Soc. vi. p. 107<sup>1</sup>.—MEXICO, Trojes (*coll. Schaus*<sup>1</sup>).
- Agrotis perotensis*, Schaus, Journ. New York Ent. Soc. vi. p. 107<sup>1</sup>.—*Hab.* MEXICO, Las Vigas, on the Cofre de Perote, 10,000 feet (*coll. Schaus*<sup>1</sup>).
- *oaxacana*, Schaus, Journ. New York Ent. Soc. vi. p. 107<sup>1</sup>.—*Hab.* MEXICO, Oaxaca (*coll. Schaus*<sup>1</sup>).
- Amathes gasiva*, Schaus, Journ. New York Ent. Soc. vi. p. 108<sup>1</sup>.—*Hab.* MEXICO, Las Vigas, 10,000 feet (*coll. Schaus*<sup>1</sup>).
- *yaxcaba*, Schaus, Journ. New York Ent. Soc. vi. p. 108<sup>1</sup>.—*Hab.* MEXICO, Orizaba (*coll. Schaus*<sup>1</sup>).
- Mentaxya butleri*, Schaus, Journ. New York Ent. Soc. vi. p. 108<sup>1</sup>.—*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).—BRAZIL, Rio Janeiro (*Mus. Brit.*<sup>1</sup>).
- Carneades colima*, Schaus, Journ. New York Ent. Soc. vi. p. 109<sup>1</sup>.—*Hab.* MEXICO, Colima (*coll. Schaus*<sup>1</sup>).
- *cofrensis*, Schaus, Journ. New York Ent. Soc. vi. p. 109<sup>1</sup>.—*Hab.* MEXICO, Las Vigas, on the Cofre de Perote, 10,000 feet (*coll. Schaus*<sup>1</sup>).
- Polyphanis psittacea*, Schaus, Journ. New York Ent. Soc. vi. p. 110<sup>1</sup>.—*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).—VENEZUELA, Aroa<sup>1</sup>.
- Mamestra zobira*, Schaus, Journ. New York Ent. Soc. vi. p. 110<sup>1</sup>.—*Hab.* MEXICO, Orizaba (*coll. Schaus*<sup>1</sup>).—JAMAICA<sup>1</sup>.
- *subpicta*, Schaus, Journ. New York Ent. Soc. vi. p. 111<sup>1</sup>.—*Hab.* MEXICO, Orizaba (*coll. Schaus*<sup>1</sup>).
- *gavisa*, Schaus, Journ. New York Ent. Soc. vi. p. 142<sup>1</sup>.—*Hab.* MEXICO, Las Vigas, Cofre de Perote (*coll. Schaus*<sup>1</sup>).
- *ciniva*, Schaus, Journ. New York Ent. Soc. vi. p. 142<sup>1</sup>.—*Hab.* MEXICO, Oaxaca (*coll. Schaus*<sup>1</sup>).
- Hecatera marmica*, Schaus, Journ. New York Ent. Soc. vi. p. 112<sup>1</sup>.—*Hab.* MEXICO, Oaxaca (*coll. Schaus*<sup>1</sup>).

- Leucania oriza*, Schaus, Journ. New York Ent. Soc. vi. p. 114<sup>1</sup>.—*Hab.* MEXICO, Orizaba (*coll. Schaus*<sup>1</sup>).
- *jaliscana*, Schaus, Journ. New York Ent. Soc. vi. p. 114<sup>1</sup>.—*Hab.* MEXICO, Guadalajara (*coll. Schaus*<sup>1</sup>).
- *oaxacana*, Schaus, Journ. New York Ent. Soc. vi. p. 115<sup>1</sup>.—*Hab.* MEXICO, Oaxaca (*coll. Schaus*<sup>1</sup>).
- *misteca*, Schaus, Journ. New York Ent. Soc. vi. p. 115<sup>1</sup>.—*Hab.* MEXICO, Oaxaca (*coll. Schaus*<sup>1</sup>).
- *orizaba*, Schaus, Journ. New York Ent. Soc. vi. p. 115<sup>1</sup>.—*Hab.* MEXICO, Orizaba (*coll. Schaus*<sup>1</sup>).
- Cucullia lilacina*, Schaus, Journ. New York Ent. Soc. vi. p. 116<sup>1</sup>.—*Hab.* MEXICO, Orizaba (*coll. Schaus*<sup>1</sup>).
- *strigata*, Schaus, Journ. New York Ent. Soc. vi. p. 116<sup>1</sup>.—*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).
- Acontia obscura*, Schaus, Journ. New York Ent. Soc. vi. p. 117<sup>1</sup>.—*Hab.* MEXICO, Guadalajara (*coll. Schaus*<sup>1</sup>).
- *trilinea*, Schaus, Journ. New York Ent. Soc. vi. p. 117<sup>1</sup>.—*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).
- Tarache pyralidia*, Schaus, Journ. New York Ent. Soc. vi. p. 117<sup>1</sup>.—*Hab.* MEXICO, Oaxaca (*coll. Schaus*<sup>1</sup>).
- *axendra*, Schaus, Journ. New York Ent. Soc. vi. p. 117<sup>1</sup>.—*Hab.* MEXICO, Guadalajara (*coll. Schaus*<sup>1</sup>).
- *mizteca*, Schaus, Journ. New York Ent. Soc. vi. p. 118<sup>1</sup>.—*Hab.* MEXICO, Oaxaca (*coll. Schaus*<sup>1</sup>).
- *jaliscana*, Schaus, Journ. New York Ent. Soc. vi. p. 118<sup>1</sup>.—*Hab.* MEXICO, Guadalajara (*coll. Schaus*<sup>1</sup>).
- Palindia hermura*, Schaus, Journ. New York Ent. Soc. vi. p. 119<sup>1</sup>.—*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).—VENEZUELA, Aroa<sup>1</sup>.
- Dyomyx volcanica*, Schaus, Journ. New York Ent. Soc. vi. p. 119<sup>1</sup>.—*Hab.* MEXICO, Orizaba (*coll. Schaus*<sup>1</sup>).
- Oræsia serpens*, Schaus, Journ. New York Ent. Soc. vi. p. 120<sup>1</sup>.—*Hab.* MEXICO, Jalapa (*coll. Schaus*<sup>1</sup>).
- Chorizagrotis sorella*, Schaus, Journ. New York Ent. Soc. vi. p. 141<sup>1</sup>.—*Hab.* MEXICO, Las Vigas, Cofre de Perote (*coll. Schaus*<sup>1</sup>).
- Peridroma scortea*, Schaus, Journ. New York Ent. Soc. vi. p. 141<sup>1</sup>.—*Hab.* MEXICO, Orizaba (*coll. Schaus*<sup>1</sup>).
- Hadena dyschoroides*, Schaus, Journ. New York Ent. Soc. vi. p. 142<sup>1</sup>.—*Hab.* MEXICO, Orizaba (*coll. Schaus*<sup>1</sup>).
- *orizabena*, Schaus, Journ. New York Ent. Soc. vi. p. 142<sup>1</sup>.—*Hab.* MEXICO, Orizaba (*coll. Schaus*<sup>1</sup>).



- Platysenta obscura*, Schaus, Journ. New York Ent. Soc. vi. p. 143<sup>1</sup>.—*Hab.* MEXICO, Orizaba (*coll. Schaus*<sup>1</sup>).—BRAZIL, São Paulo<sup>1</sup>.
- Stibadium corazona*, Schaus, Journ. New York Ent. Soc. vi. p. 144<sup>1</sup>.—*Hab.* MEXICO, Orizaba, Guadalajara (*coll. Schaus*<sup>1</sup>).
- *jalada*, Schaus, Journ. New York Ent. Soc. vi. p. 144<sup>1</sup>.—*Hab.* MEXICO, Guadalajara (*coll. Schaus*<sup>1</sup>).
- Plagiomimicus musculus*, Schaus, Journ. New York Ent. Soc. vi. p. 144<sup>1</sup>.—*Hab.* MEXICO, Oaxaca (*coll. Schaus*<sup>1</sup>).
- Grotella dulcita*, Schaus, Journ. New York Ent. Soc. vi. p. 144<sup>1</sup>.—*Hab.* MEXICO, Guadalajara (*coll. Schaus*<sup>1</sup>).



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